Bureau of Statistics and Economic Research, U.P.

PRICES OF CEREALS

IN THE

UNITED PROVINCES

How they are determined at various stages

BY

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FOREWORD

THE inquiry of which this monograph is the result, was proposed and approved by the Board of Economic Inquiry, United Provinces, at its second meeting and was started early in 1935. Unfortunately the publication of the monograph was considerably delayed and it has been found necessary to compile and publish up-to-date statistics of production, prices, trade movements and freight rates. This has been done in the appendices.

Mr. J. K. Pande, M.A., Investigator of the Bureau, conducted detailed inquiries both in the villages as well as the *mandis* to obtain necessary information. He is also mainly responsible for the preparation of the monograph and the various calculations. First-hand information was collected from all the important *mandis* for cereals as well as from a number of representative villages in the principle districts of the province. I have personally supervised and checked these investigations at several places. The villages were selected in consultation with the district authorities, who also helped in obtaining correct information from the cultivators.

The monograph deals with the various factors which determine the fixation of prices in the big central *mandis*, the small intermediate *mandis* and the villages. The relation between the different prices has been analysed. The effects of foreign as well as internal influences on the determination of local prices have been traced and the relative importance of speculation and other factors in this behalf has been brought out. The various marketing practices have been described and the *mandi* charges to the cultivator and the *beopari* in the central and the intermediate *mandis* have been analysed.

Mr. Pande has calculated the quantitative effects of the general factors influencing prices and has worked out the differences between prices in the " principal " and the secondary *mandis* on the one hand and the *mandis*

and the villages on the other. The various factors responsible for these differences, their individual contribution and the minimum to which the existing differences can be reduced have also been investigated. The effects, on prices in the village, of the hypothecation of standing crops, the social pressure of the village creditor, the cultivator's hurry to sell his grain immediately after the harvest and the discrimination against the cultivator in the *mandis* on account of his ignorance and illiteracy have been discussed.

Mr. Pande has estimated the cost of stocking grain and the relation between the harvest, sowing and annual prices. He has also calculated the actual and normal differences between these prices.

In the end I have to acknowledge with thanks the valuable help of the many trade organizations, banks and individual merchants and brokers who supplied the necessary information, often at great personal inconvenience. The revenue staff as a whole, and especially the patwaris and kanungos in the villages selected for inquiry, deserve particular mention for their willing and helpful co-operation. To Mr. P. M. Kharegat, C.I.E., I.C.S., Secretary to Government, Industries Department, are due my special thanks for general guidance in the course of investigation and for invaluable hints in preparing and editing the monograph. That he could find time to go through the manuscript with such meticulous care, in spite of so many preoccupations, is proof not only of his ability and thoroughness but of his abiding interest in economic research and the quest for truth. Acknowledgements are also due to professors Radhakamal Mukerjee, S. K. Rudra and S. M. Shafi for going through the monograph and for valuable suggestions.

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CHAPTER I
INTRODUCTION

The importance of cereals—

1. Cereals occupy by far the most important place amongst the crops grown in the United Provinces. Food being the prime necessity of life, the importance of cereals amongst the crops raised from land can indeed be traced back to the very beginning of agricultural economy. With the growth of population and of civilisation, man settled down from pasture to agriculture. That was the beginning of rural life, of self-sufficing village economy. There was at this stage little inter-connexion between the villages, each village producing practically all its needs. Wants were few and cereals naturally took the first place amongst them. As wants increased and became more varied, the necessity of exchange was felt. Occasional fairs and *bazaars* were organised to facilitate the meeting of would-be buyers and sellers. Thus there came into existence a periodic contact between the villages. Gradually a few small towns also developed and trade on a limited scale came into existence. Cereals, however, still occupied the first place amongst the agricultural products and trade was confined to cattle or to the less urgent necessities of life or to articles of comfort.

in the past

and at present.

2. The development of the means of transport and communications and of organized industries led to the growth of urban life. Trade became a much more important element of economic organization and the introduction of money tended to replace the self-sufficing village economy by the cultivation of commercial crops. In so far, however, as the yield and consequently the amount of money that a crop will bring depends on climate (including rainfall, soil and other physical conditions), climate may be regarded as a factor determining the commercial importance of a crop. The question of selection of crops was, therefore, to be decided by their respective commercial importance as modified by conditions of climate. Accordingly, with their rich fertile alluvial soils supplemented by suitable climate, the United Provinces have remained "the great grain-growing districts of India".(a)

(a) Morrison: New Geography of the Indian Empire and Ceylon.

The importance of wheat amongst cereals.

3. The relative importance of the different cereals was also decided by the same considerations. Those cereals received the greatest patronage which were favoured by both, commercial importance and suitable climate. Wheat and rice were the two chief cereals of trade—cereals which India exported to foreign countries in large quantities. The commercial factor was thus in favour of both, wheat and rice. Rice is, however, produced in comparatively abundant quantities in Bengal, Burma and other provinces of India which have got greater advantages of soil and climate for this crop than the United Provinces. Moreover, the climatic factor went particularly in favour of wheat. "Wheat can sprout even under snow, but cannot stand moist heat. It grows best in clayey alluvial soil, and, when sprouting, prefers a cold climate which makes it send out branches underground. But, once above ground, it likes warmth and dryness. Hence it is very little grown on hot damp plains" like those of Bengal, but "it thrives in the cold season on the clayey alluvial soils of the United Provinces. . ."(a) Wheat of all the cereals thus came to be the most important crop of the province generally and of the west United Provinces in particular.

"Cereals" defined.

4. Of the total area sown in the United Provinces, over 86 per cent. is under "food-grains and pulses", and of this latter over 81 per cent. is under wheat, rice, gram, barley, jowar, bajra and maize together. The present investigation has been confined to these latter cereals only. Accordingly the term "cereals" has, hereafter, been used so as to stand for wheat, rice, gram, barley, jowar, bajra and maize only.

Area under cereals.

Table I below gives figures for the last ten years for the total area sown, the total area under "food-grains and pulses", the areas under different cereals and the total area under cereals.

(a) Morrison: New Geography of the Indian Empire and Ceylon.

TABLE I—*Area sown (total and under cereals) in the United Provinces* (1926—36)
(in thousand acres)

Year	Total area sown in the United Provinces	Total area under food-grains and pulses	Area under—							
			Wheat	Rice	Gram	Barley	Jowar	Bajra	Maize	Cereals (total)
1	2	3	4	5	6	7	8	9	10	11
1926-27 ..	42,296	36,457	6,831	7,504	6,012	3,929	2,301	1,909	1,679	30,165
1927-28 ..	43,480	37,720	7,588	7,336	5,931	4,282	2,146	1,921	1,862	31,066
1928-29 ..	43,108	37,204	7,218	7,096	5,424	4,383	2,264	1,973	2,004	30,362
1929-30 ..	42,279	36,438	7,298	6,873	4,208	4,269	2,469	2,128	2,327	29,572
1930-31 ..	43,750	38,082	7,731	6,775	5,102	4,223	2,509	2,024	2,375	30,739
1931-32 ..	43,834	38,049	7,864	6,612	5,686	4,050	2,619	2,150	2,116	31,097
1932-33 ..	42,993	37,130	7,789	6,187	5,399	3,844	2,381	2,185	2,137	29,922
1933-34 ..	43,952	38,144	8,580	6,032	5,300	4,272	2,632	2,141	2,023	30,990
1934-35 ..	43,428	37,483	7,671	6,489	5,510	4,080	2,241	2,159	2,121	30,271
1935-36 ..	42,854	37,259	7,175	6,689	5,680	3,784	2,237	2,292	2,120	29,977
Average ..	43,197	37,397	7,575	6,760	5,425	4.112	2,380	2,088	2,076	30,416

The importance of wheat with regard to area, yield,

5. It will be seen from the above Table that about 25 per cent. of the total area under cereals is sown under wheat. With regard to yield also, wheat takes the leading position amongst the cereals, the share of wheat in the total yield of cereals in the United Provinces being just below 29 per cent. Table II below gives figures of the yield of different cereals during the last ten years.

TABLE II—*Yield of cereals in the United Provinces* (1926—36)
(in thousand tons)

Year	Yield of—							Total yield of cereals
	Wheat	Rice	Gram	Barley	Jowar	Bajra	Maize	
1	2	3	4	5	6	7	8	9
1926–27	2,514	2,349	1,772	1,699	524	445	660	9,963
1927–28	2,394	2,195	1,501	1,306	557	401	777	9,141
1928–29	2,500	1,110	1,065	1,608	334	266	689	7,574
1929–30	3,342	1,528	1,247	1,371	643	366	914	9,411
1930–31	2,726	1,709	1,402	1,575	538	398	933	9,281
1931–32	2,633	1,995	1,560	1,607	526	343	833	9,497
1932–33	2,744	1,334	1,398	1,534	497	429	751	8,687
1933–34	2,572	1,745	1,276	1,710	493	379	695	8,864
1934–35	2,554	1,946	1,525	1,676	450	451	796	9,398
1935–36	2,529	1,989	1,718	1,677	449	457	808	9,627
Average	2,651	1,790	1,446	1,576	501	394	786	9,144

and external trade.

6. The figures of export and import, given in Table III below, bring out the commercial importance of wheat amongst cereals. It will be observed that the exports of wheat and wheat flour from the United Provinces in 1933-34 were just below 40 per cent. of the total exports of "grain, pulse and flour." This percentage has, however, declined during the last two years to about 25. If the total volume of trade (exports plus imports) in "grain, pulse and flour" be taken into account, wheat (including wheat flour) accounts for above 32 per cent. in 1935-36.

TABLE III—*External trade of the United Provinces in cereals*
(in thousand tons)

Year	Exports of—			Imports of—			Total trade in—		
	Grain, pulse and flour	Wheat and wheat flour	Rice	Grain, pulse and flour	Wheat and wheat flour	Rice	Grain, pulse and flour	Wheat and wheat flour	Rice
1	2	3	4	5	6	7	8	9	10
1916–17 ..	788	203	42	371	64	114	1,159	267	156
1917–18 ..	1,295	508	41	178	25	100	1,473	533	141
1918–19 .	970	490	71	551	45	270	1,521	535	341
1919–20 .	513	193	14	283	46	136	796	239	150
1920–21 .	820	233	25	463	148	187	1,283	381	212
..	..	..	..	..	..	..	..	..	..
1933–34 ..	473	185	19	435	67	292	908	252	311
1934–35 ..	418	95	26	501	107	254	919	202	280
1935–36 ..	370	94	37	422	163	155	792	257	192

Wheat the "representative" cereal.

7. Of all the cereals, therefore, wheat easily commands the greatest importance. Accordingly greater attention has been paid in this investigation to the study of the prices and other information relating to wheat than of those concerning other cereals. But while the facts stated and the inferences deduced from them apply strictly, when no particular cereal is specified, to wheat only, they would with slight modifications, hold true more or less equally of the other cereals also. Where, however, material differences have been observed, they have been separately stated. The procedure or the method adopted is, however, essentially general and can be applied to any other cereal.

Nature of information.

8. The facts stated in the following pages are based on personal inquiries and observation in a number of villages in all the principal districts of the province as well as in the *mandis* (market places) for cereals scattered throughout the province. While conditions have been found to vary considerably from one end of the province to the other, an attempt has been made to deduce from the heterogenous mass of information collected, facts which may be taken to be representative of the conditions in the province generally. When, however, the practices current in any important region have been found to be materially different from the general run, they have been separately specified and a reference has been made to the particular localities to which they apply. Under the circumstances, the figures arrived at for variables like prices and *mandi* charges are necessarily of the nature of an "average". The average prices have, for purposes of comparison, been generally based on the figures for the last three years not only because the required statistics were not always available for a longer period but also because the conditions affecting the price-level have so changed during recent years that the prices in the more distant past would hardly be real to the existing conditions. Unfortunately even the last three years have by no means been completely normal; consequently in some places figures for the last year alone have been considered. The conclusions arrived at in this investigation have therefore to be considered in the light of these limitations.

Cereals from the producer to the consumer—various stages.

9. From the field where they are grown down to the home of the consumer, cereals generally pass through several stages. In the village itself the producer may sell his surplus produce to the village *sahukar* (money-lender), the *zamindar* (landlord), the local or the itinerant *beopari* (tradesman), or even occasional buyers from the neighbouring *mandis*. Thence it ordinarily passes, immediately or after

some time, to the neighbouring *mandi* which is situated either in a big village or a small town. These *mandis*, in general, have more or less well-defined spheres of influence and are sufficiently well known both in the rural neighbourhood for their commercial importance and to the other *mandis* of the region for their stocks and supplies of agricultural produce. From these *mandis* the grain further moves on, through and to bigger and more important *mandis*, until it reaches the consumer in the province or is exported outside the United Provinces. The exact number of stages through which cereals pass from the place of their production to the home of the consumer cannot be definitely stated for all cases, as the actual number depends primarily upon the geographical position of the village and its economic distance from the *mandis* of the region and secondarily upon the economic and social conditions in the village. The number also depends upon the conditions existing in the neighbouring *mandis* and in some cases, upon such indefinable factors as the whim of the producer.

different in different cases;

10. It may, however, be assumed that in a typical instance, cereals are taken for sale from the village by a *beopari*, or in a few cases by the producer himself, to the economically nearest *mandi* situated generally in a big village or a small town, and that from this *mandi* the cereals are exported to a bigger central *mandi* for local consumption or for export outside the region or the province. This central *mandi* is generally situated in a big town or a city and stands at the top of the marketing organisation for the sale and export of the surplus produce of the region or for importing cereals from outside if the region consumes more than it produces. Such *mandis* naturally exercise great influence and control on the price. The term "secondary *mandis*" has been used to denote the smaller *mandis* to which cereals are taken direct from the villages and whose main function is to collect local produce and forward it to the central *mandi*. The central *mandi* has been called the "principal *mandi*". Examples of the principal *mandis* for cereals in the province are Hapur, Chandausi, Ghaziabad, Meerut, Muzaffarnagar, Saharanpur, Bareilly, Cawnpore, Allahabad, and Benares; while the secondary *mandis* for cereals include Barant (Meerut), Khatauli (Muzaffarnagar), Gangoh (Saharanpur), Khurja (Bulandshahr), Atarra (Banda), Chirgaon (Jhansi) and a host of others, in every district.

typical stages: the *beopari*,

the "secondary" *mandis*,

and the "principal" *mandi*.

11. A secondary *mandi* forms an important link between the principal *mandi* and the villages all around. A number of secondary *mandis* may be imagined as appended to every principal *mandi*. These secondary *mandis* lie, as it were,

The villages, the secondry *mandis* and the principal *mandi*

on a circle whose centre is the principal *mandi*, and connects with the latter a large number of villages whose surplus produce flows down to that principal *mandi* through their medium and which may be supposed to lie within a bigger, concentric circle. The length of the radius of this latter (bigger) circle is determined by certain economic causes like the level of prices in the *mandi*, the cost of transportation including octroi duties (if any) and the "*mandi* charges" and other expenses incurred by the seller, as well as, in not a few cases, by certain non-economic factors including tradition and social influence or pressure. The principal *mandi* stands as the representative of the entire region defined by the outer circle, taking stock of changes in the prices and trade conditions outside the region and province, on the one hand, and keeping in touch with its own region with the help of its sub-*mandis*, that is, the secondary *mandis* of the region, on the other hand. Thus if a single principal *mandi* were to be chosen as representative of the whole province, the choice would be made from amongst the biggest and the most influential principal *mandis* of the province. A representative secondary *mandi*, on the other hand, must be the type of its class and must therefore stand not at the top but about the middle of the whole group. There might thus be more than one secondary *mandis* which could be chosen as representative of the class.

together form a complete regional marketing unit.

The distinction between secondary and principal *mandis* is not rigid ;

12. It is apparent that the line of demarcation between the principal *mandis* and the secondary *mandis* cannot be very precise. Secondary *mandis*, for instance, must include, on the one hand, small rural trading centres like Kandhla (Muzaffarnagar) and Mundera (Gorakhpur) and on the other, fairly well-organised *mandis* like Shamli (Muzaffarnagar) and Deoband (Saharanpur). Nor can the two classes be exactly defined. A good number of the so-classed secondary *mandis* export cereals directly outside the province. Shamli, for example, exports wheat to Delhi and Bihar, and Deoband to Calcutta. So also practically all the principal *mandis* receive a quantity of cereals, large or small, directly from the villages. The same *mandi* may therefore function both as a principal and as a secondary *mandi*. It may, however, be pointed out that at any particular time or as far as any particular transaction is concerned, a *mandi* is either a principal *mandi* (for example, when exporting cereals directly outside the province) or a secondary *mandi* (when, for instance, receiving cereals directly from the villages). The two classes are not exclusive and therefore overlap but their functions are fairly well defined, and generally, a *mandi* is to be said

the two classes are not exclusive but practically distinguishable ;

to belong to one class or the other according as a major portion of its normal work partakes more of the nature of the functions of the one class or of the other (a). The above classification distinguishing between the principal *mandis* and the secondary *mandis* is, however, not vital to the subject; it has been made in order that it may facilitate a clear analysis of the factors affecting the prices of cereals in the United Provinces at different stages.

the distinction not fundamental but helpful.

13. Each stage through which cereals pass on their way to the final consumer adds a middleman who has to be reimbursed for the services he renders; each one tends to widen the difference between the price obtained by the producer and the price paid by the ultimate consumer. The prices of cereals in the village, in the secondary *mandis* and the principal *mandi* are thus different. Even at the same place the prices are different at different times of the year. How are these different prices determined and what is the nature and the extent of the difference normally existing between them? This is the fundamental problem the solution of which has been attempted in the following pages. The problem resolves itself into three distinct parts:

The main problem—

threefold

(*a*) the determination of the factors which influence the fixation of the different prices;

(*b*) the determination of the normal difference between the prices in the *mandis* and the price in the village; and

(*c*) the determination of the normal difference between prices at different times.

14. The importance and the necessity of an investigation into the factors which determine the prices of cereals can hardly be over-emphasised in a province like the United Provinces where not only does agriculture predominate but cereals occupy the leading position amongst the crops raised from land. It is necessary for profitable cultivation that a suitable price be obtainable to the producers. This, however, is possible only when adequate facilities for marketing and trade are available. The United Provinces at present produce, for example, more wheat than they consume, so that outlets for the export of surplus wheat are necessary. Table IV below gives figures for the quantity of Indian exports and imports of wheat during the last fifteen years, while Table V compares the quantity of external trade (exports and imports) of the United Provinces in wheat and wheat flour during the last three years with that during 1920-21.

The importance of the problem: the first problem—

the relation between trade and production.

(*a*) The distinction between the functions of the principal *mandis* and the secondary *mandis* is made clearer in paragraph 24, *post*.

TABLE IV.—*Foreign trade of India in wheat* (1921—36) *(in thousand tons)*

Year	Exports	Imports	Net exports
(1)	(2)	(3)	(4)
1921–22	81	440	—359
1922–23	220	19	+201
1923–24	638	12	+626
1924–25	1,112	4	+1,108
1925–26	212	35	+177
1926–27	176	40	+136
1927–28	300	69	+231
1928–29	115	562	—447
1929–30	13	357	—344
1930–31	197	232	—35
1931–32	20	111	—91
1932–33	2	33	—31
1933–34	2	18	—16
1934–35	11	7	+4
1935–36	10	13	—3

TABLE V—*External trade of the United Provinces in wheat and wheat flour (in thousand tons)*

Year	Exports	Imports	Net exports
(1)	(2)	(3)	(4)
1920–21	233	148	+85
*	*	*	*
1933–34	185	67	+118
1934–35	95	107	—12
1935–36	94	163	—69

and the necessity of trade,

15. The figures speak for themselves. From an exporter of wheat, India turned into an importer of wheat in 1928-29. The competition of foreign wheat was felt so strongly by the Indian agriculturist that with a view to protect him from complete ruin, a duty of Rs.2 per cwt. was levied in March, 1931 on all foreign wheat imported into India. The foreign trade of India in wheat has since then been insignificant. In view of the large stocks of wheat at present held in the foreign markets, the reduction in the cost of production of wheat in foreign countries chiefly due to large scale production and mechanisation of agriculture, and the backward state of Indian agriculture, the chances of India regaining her export (foreign) trade in wheat in the near future are remote, except during exigencies of war or as a result of similar temporary and abnormal factors. Attention has therefore to be concentrated on the development of inter-provincial trade and on finding suitable markets for

the United Provinces' wheat within the country. Figures in column (4) of Table V above indicate that the United Provinces have followed India in changing from an exporter to an importer. Trade is a "function" of prices; the comparative level of prices in any two areas tends to decide the direction and the magnitude of the flow of trade between them. On the prices of wheat and other cereals in the principal *mandis* of the United Provinces in relation to the outside markets therefore depend the nature and the amount of the external trade of the province in cereals. The usefulness of a study of the different factors which at present influence the prices of wheat and other cereals in the United Provinces is thus evident.

the relation between prices and trade;

16. The second part of the main problem is the determination of the normal difference between the prices in the *mandis* and the price in the village. A certain difference must always exist between the price paid by the ultimate consumer and the price obtained by the producer, but a minimisation of this difference would be in the interests not only of the producer but also of the consumer. The cultivator is poor. Every addition to his existing income, howsoever small, would be a welcome relief to him. While the desirability of an attempt to increase the yield from land cannot be too strongly stressed, it is at the same time necessary that the cultivator should be enabled to secure for himself a proper value for his produce. Unless the cultivator gets a proper price for what he has to sell, he cannot obtain the full benefits of any scheme devised to increase the yield from land. It is necessary to minimise the difference between the price paid by the consumer and the price obtained by the cultivator if a major portion of the benefit of increased yield from land is not to be appropriated by a class of persons other than those for whom it is intended. It will be seen that this difference as it exists at present admits of considerable reduction. It is therefore necessary, if only by way of diagnosis, to investigate this second problem, which is, in fact, no less important than the first.

the second problem—

the cultivator is poor,

and the prices he obtains unnecessarily low—

a diagnosis.

17. The problem of determining the normal difference between prices of cereals at different times is by no means unimportant. Just as prices must differ from place to place on account of factors like the cost of transportation, so must they also differ from time to time due to the cost of stocking, etc. A minimisation of this difference would benefit the consumers, especially those—and their number is considerably large—who lead a hand-to-mouth life. A point of special importance and interest under this problem is the great disparity that at present exists between the prices of cereals at

the third problem—

the disparity between harvest and sowing prices.

harvest and sowing times. It will be seen that the cultivator has, by force of circumstances, to sell his produce at abnormally low prices and to borrow or buy his seed at abnormally high prices. If the two prices were nearer to each other, the cultivator's cost of production would be reduced and/or he would get more money in exchange for his produce, so that the surplus left to him would be greater. The seasonal variations in prices have, however, to be distinguished from those due to periodic or accidental phenomena, unscientific speculation or other special causes.

The plan of investigation—

18. The first of the three problems specified in paragraph 13 above is dealt with in the next four Chapters, the second in Chapters VI, VII and VIII and the third in Chapter IX.

Chapter II; Chapter II traces the relation—the nature of the difference—between the prices in the principal *mandi*, the secondary *mandis* and the villages; and by establishing one of these (that is, the price in the principal *mandi*) as the basic price from which the other two could be deduced, reduces the problem of the determination of these three different prices separately to that of determining only one. Chapters III and IV are devoted to an examination of the influences affecting this

Chapter III; basic price, that is, the price in the principal *mandi*, Chapter III dealing with foreign influences and considering the prices in India and the United Provinces in relation to foreign prices, and

Chapter IV; Chapter IV with Indian influences within and without the

Chapter V; province. Chapter V sums up the whole problem, investigates into the various factors affecting the basic price and brings out the importance of speculation. Of the next three Chapters, which deal with the determination of the actual difference normally existing between the prices at different places,

Chapter VI; Chapter VI is devoted to the calculation of the difference between the prices in the principal *mandi* and the secondary

Chapter VII; *mandis*. Chapters VII and VIII deal with the price to the cultivator in the village; Chapter VII recounts, in general, the influences which affect this price and which, ordinarily, weaken the position of the cultivator in the village as

Chapter VIII; seller, while in Chapter VIII the actual differences normally existing between the price in the village and the prices in the secondary as well as the principal *mandis* have

Chapter IX. been calculated. In the last, that is, the ninth chapter the third part of the main problem, viz., the determination of the normal difference between prices at different times has been taken up, and after considering the general factors which contribute to this difference, an attempt has been made to calculate the difference that should normally exist between the prices at harvest and sowing times.

CHAPTER II

The relation between different prices

19. The first question which arises in connection with the determination of the factors which influence the prices in the villages, the secondary *mandis* and the principal *mandi* is whether these different prices are in any way related to one another, and if they are, what the nature of that relation is. If a suitable relation be found to exist between them, it may not be necessary to investigate separately how each of these three prices is determined. For, it might be possible on the strength of such a relation not only to infer how the other prices are determined when one of them is fixed, but also to find out the difference usually existing between them. **The importance of the relation.**

20. When the crops have been harvested and cereals are ready for sale, the producer in the village begins to display a keener and more personal interest in the prices in the *mandi* or *mandis* close to his village. He looks upon the rates prevailing in the *mandis* as the basis of the price at which he is to sell his produce. During the period when the villages have got something to sell—for example, the months of May and June for the sale of wheat—there comes to exist practically a daily communication between the villages and these *mandis*. Generally some persons go to the *mandi* early in the morning and return the same evening after making their sales and purchases. These persons broadcast the prices to the people in the village. When late in the evening the villagers sit down together and chat at a common meeting place in the village, it is a question of common interest whether any person went to the *mandi* during the day and what news he had to give concerning the prices. The local *banias* (merchants) interested in the purchase of wheat and other cereals from the village, of course, take special steps to keep themselves in constant touch with the changes in the prices in the neighbouring *mandis*. When, therefore, an actual bargain is entered into in the village, both the producer-seller and the middleman-buyer keep in their mind the *mandi* price as the basis of their contract, this price (assuming that they are both equally informed) being modified to an extent determined in some cases by tradition but generally by mutual haggling. If the producer himself takes his grain to the *mandi*, the importance of the *mandi* price as a factor influencing the price obtained by **The relation between prices in the village and the secondary *mandi*—**

the village price follows the *mandi* price.

the cultivator becomes evidently supreme; for, after the cultivator has reached his *arhati's* (commission agent's) shop in the *mandi*, he has little left to do except to receive the money when the grain has been sold. The basis of the village price is therefore the price ruling in the *mandi* or *mandis* whose "sphere of influence" covers the village in question.

The relation between prices in the secondary and the principal *mandis*— the price in the secondary *mandis* follows the price in the principal *mandi*, which is the basic price.

21. The price in the secondary *mandis* is, similarly, dependent on the price in the principal *mandi*. Businessmen in these comparatively small *mandis* keep in touch, by correspondence and otherwise, with the *arhats* in the principal *mandi*. When, therefore, the *arhatis* in the secondary *mandis* buy from the cultivator or from the *bania* (or any other type of middleman from the village), they take into account the price in the principal *mandi* and modify it in accordance with the incidental expenses like the cost of transportation and their own margin of wages and profits. Thus the prices in the secondary *mandis* follow the course of the price in the principal *mandi* of the region; this latter price may therefore be called the "basic" price.

Price-lag.

22. Before proceeding to an analysis of this basic price, attention must be drawn to the existence and practical importance of what is known as "price-lag." Price-lag is a direct result of imperfect communications. The price in the principal *mandi* changes almost every day, if not every few hours, and while the price in the secondary *mandis* tends to follow the changes in the price in the principal *mandi*, it naturally cannot keep pace with the latter. As a result, the changes in the price in a secondary *mandi* are not exactly identical with, but a rough average of, the changes that have taken place in the price in the principal *mandi* since the last change in the price in the secondary *mandi*. The price-lag is the more marked in the case of the price in the village in its relation to that in the secondary *mandis* on account of inefficient means of communication between the villages and the *mandis* and the inactivity and lack of skill on the part of the cultivator in the matter of selling his produce at the best price. The phenomenon of price-lag is one of the most important amongst those which generally secure abnormal profits to the businessmen in the secondary *mandis*.

The basic price

23. The price in the principal *mandi*, it has been seen, is the basic price. It affects the price in the secondary *mandis*, and also the price in the villages either directly or through the smaller *mandis* which directly determine the

price in the villages. This, however, appears to be in contradiction to economic theory, according to which price is the result of the inter-action between supply and demand. An exporting principal *mandi* represents the demand side in relation to the secondary *mandis* or directly to the villages, which are the ultimate suppliers. The two sides should, in adherence to strict economic theory, play more or less an equal part in determining the price. In fact, cereals being of the nature of non-perishable commodities, the supply side should play relatively a more important part in the fixation of price. The statement that the price in the principal *mandi* is the basic price, which determines the prices in the secondary *mandis* and the villages appears, however, to ignore the importance of the supply factor altogether. How then is it to be reconciled with economic theory? Or, does it form an important exception to the general doctrines?

appears to present an economic anomaly;

24. The apparent economic anomaly brought out in the preceding paragraph arises from the highly complex character of the price in the principal *mandi*, which has to take into account many and various influences, namely, (i) the conditions of supply (and demand) in the smaller *mandis* and in the villages situated in the region, (ii) the conditions of demands (and supply) in the *mandis* outside the province, and (iii) the conditions of demand and supply in the rival *mandis* in the province, specially those in the neighbourhood. The principal *mandi* has to analyse the existing conditions and to extrapolate, as accurately as possible, the conditions in the near as well as the distant future. It has to take stock of all these influences and conditions, to resolve the counteracting forces, co-ordinate the like and the unlike, balance the strength of the two and mould the net effect into one definite resultant, one ruling price. The secondary *mandis* act similarly but on comparatively a very small scale. They take into account the factors of supply (and demand) only within the sphere of their influence, which is limited. The principal *mandi* has by far a wider sphere; the small *mandi* is only one of the many equally big as well as bigger *mandis* which report to it. The small *mandi*, too, has to consider the conditions in a number of its own reporting units—the villages. But these villages together generally form one compact region, homogeneous in character and affected in a similar manner by common influences like the conditions of the weather, the crops, etc. The component parts of the principal *mandi* lie comparatively far and wide, in all directions, and their character is varied. Possibly the reports from these units do not all point the same way. The function of the principal *mandi* is to

the principal *mandi* vs. the secondary *mandi*,

give to each sub-*mandi* the benefit of its knowledge of conditions of supply and demand, existing and prospective, in other small and big *mandis* and thereby to place the price in the sub-*mandi* at par and in conformity with the prices in the other *mandis* and markets.

the mport a nce and usefulness of the principal *mandi* : the basic price is the result of subtle interaction of economic forces—

25. The conditions of supply (and demand) in the secondary *mandis* thus do have a lasting influence on the price, trifling though it may be in individual cases, but that influence is exerted not directly but through the principal *mandi*. If, for example, a small *mandi* happens to receive on a particular day an amount of wheat far in excess of the daily expectation, the price in the *mandi* will, in all probablity, undergo a fall but this fall will tend to be temporary and short-lived. If, however, the supply continues to be excessive, it will have its repercussions on the price in the principal *mandi*, which will consider this excessive supply in one of its sub-*mandis* in the light of reports from the other sub-*mandis*. With a change in the price in the principal *mandi* the price in *all* the sub-*mandis* will undergo a change, which will tend to be permanent and stable. While therefore it appears that the price in the secondary *mandis* is directly and that in the villages is indirectly, completely dependent on the price in the principal *mandi* (ignoring factors like the cost of transportation and *mandi* charges), it is not correct to understand that the conditions of supply (and demand) obtaining in the villages and the small *mandis* have no play in the determination of the final price. The influences represented by the conditions of supply (and demand) in the villages and the secondary *mandis* have already been fully accounted for in the process of the fixation of the basic price—their *net* effect is included in the prevailing basic price. The phenomenon of the interaction between supply and demand thus does take place but, probably from considerations of practical convenience and facility, indirectly and under cover.

the anomaly explained.

The nature of the relation and difference between the different prices.

26. The prices in the village, the secondary *mandi* and the principal *mandi* are then related to one another, and the price in the principal *mandi* is the basic price for the other two. Evidently the extent of the difference between the village price and the *mandi* price will depend, along with other factors, upon the position of the village in relation to the *mandi* and will therefore vary according to the circumstances of each particular case. The general causes of this difference may, however, be mentioned here. The economic causes are essentially the same for both the difference between the village

price and the price in the secondary *mandi* and that between the latter and the price in the principal *mandi*. In brief, they include the cost of transportation, octroi duties or terminal taxes, if any, and the expenses incurred in selling, that is, the *mandi* charges including the middlemen's normal wages and profits. In addition to these causes, however, there are extra-economic influences working in a large number of villages, which tend to reduce the price which the cultivator would normally obtain for his produce. These include social pressure, the cultivator's general poverty and indebtedness, the fact that the seed he sows is generally borrowed, the smallness of the quantity of his surplus produce and his general illiteracy and ignorance contributing in many cases to uneconomic behaviour on his part. The individual and joint effects of all these factors, economic and others, though they would differ according to the position and circumstances of each locality, can be determined with fair accuracy in any particular case, and have been calculated in the appropriate chapters. The nature of the relation between the different prices being thus known, it will be sufficient for the purpose of knowing how each of them is determined, to investigate the factors determining the basic price and thereafter to find a measure of the average or usual difference between the basic price and the price in the secondary *mandis* on the one hand and between the latter and the price in the villages on the other.

CHAPTER III

THE PRICE IN THE PRINCIPAL *Mandi*: *Foreign Influences*

Hapur the representative 'principal *mandi*' of the United Provinces,

27. Of the principal *mandis* for wheat in the United Provinces, Hapur is easily the biggest and the most important on account of not only the volume of grain handled and the business transacted but also the efficiency of the organization of market and speculation. Consequently in all questions involving comparison with prices or other conditions outside the province, Hapur has been taken to be the representative principal *mandi* for cereals in the United Provinces (*a*). Again, as far as foreign markets are concerned, wheat of all the cereals is the commodity in which the United Provinces are most interested.

and wheat the representative cereal for foreign comparisions.

Foreign influences through the medium of Indian ports.

28. To measure the effects of foreign influences on Indian prices, the prices at the Indian ports are to be considered. In order, therefore, to find out the effect of foreign prices of cereals on those in the United Provinces, it would be sufficient to obtain a measure of the correlation between variations in the foreign prices of wheat and the prices of wheat at the Indian ports on the one hand, and the latter and the prices of wheat at Hapur on the other. Accordingly, the prices of wheat at Hapur are compared with those at Karachi in Table VI below, which gives the wholesale prices of wheat at Hapur and Karachi at the end of each month during the last three years, namely, from April, 1933 to March, 1936:

TABLE VI—*Monthly Wholesale Prices of Wheat at Hapur and Karachi.* (1933—36)

Hapur and Karachi Prices:

	Prices at Hapur (*b*)	Prices at Karachi (*c*)
	(Rupees per maund)	(Rupees per candy)
1933–34		
April	3·172	22·625
..	3·086	25·375

(*a*) Cf. paragraph 11.

(*b*) Prices of "ready *khatti*"—by courtesy of the Mahabir Bcopar Mandal, Ltd., Hapur.

(*c*) Prices of "white wheat wheat, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red"—"The Indian Trade Journal".

	Prices at Hapur (*a*)	Prices at Karachi (*b*)
	(Rupees per maund)	(Rupees per candy)
1933-34—(*concld.*)		
June	3·082	25·125
July	3·328	26·125
August	2·699	23·000
September .. .	2·461	23·000
October	2·359	22·000
November	2·266	21·500
December	1·953	21·250
January	2·156	21·500
February	2·125	21·500
March	1·875	19·750
1934-35		
April	2·125	20·250
May	2·250	20·750
June	2·493	21·250
July	2·406	19·875
August	2·418	21·375
September	2·136	19·625
October	2·219	20·125
November	2·363	21·625
December	2·336	22·250
January	2·649	24·375
February	2·250	22·375
March	2·125	21·375

(*a*) Prices of "ready *khatti* "—by courtesy of the Mahalir Beopar Mandal, Ltd., Hapur.

(*b*) Prices of "white wheat, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red "—The Indian Trade Journal.

	Prices at Hapur (*a*) (Rupees per maund)	Prices at Karachi (*b*) (Rupees per candy)
1935-36		
April	2·250	21·875
May	2·594	22·188
June	2·555	21·438
July	2·594	22·438
August	2·453	21·875
September	2·688	23·188
October	2·797	25·125
November	2·664	24·875
December	2·500	24·000
January	2·422	23·313
February	2·375	23·188
March	2·461	24·063

29. The following statistical co-efficients are deduced from Table VI:

TABLE VII.

statistical co-efficients.

	Hapur	Karachi
Average price (Rs. per maund)	2·463	2·797
Standard deviation	0·326	0·207
Co-efficient of variation	13·236%	7·401%
Co-efficient of correlation (r)	+0·774	
Probable error of (r)	±0·045	

high correlation.

30. The correlation between Hapur and Karachi prices is thus high and its probable error very low. The co-efficient

(*a*) Prices of "ready *khatti*"—by courtesy of the Mahabir Beopar Mandal, Ltd., Hapur.

(*b*) Prices of "white wheat, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red"—The Indian Trade Journal.

of correlation between weekly wholesale prices of wheat at Hapur and Karachi during the same period works out to +0·819 with a probable error of ± 0·028. The prices of wheat at Hapur and Karachi are, therefore, highly correlated. A measure of correlation between the prices at the Indian ports and the foreign prices would, therefore, also serve as an approximate measure of correlation between Hapur prices and foreign prices. Table VIII below gives the wholesale prices of wheat in London and at Calcutta and Bombay, at the end of each month during the three years from April, 1933 to March, 1936:

TABLE VIII—*Monthly Wholesale Prices of Wheat at London, Calcutta and Bombay.* (1933—36)

	(*a*) London prices	(*b*) Calcutta prices	(*c*) Bombay prices	London, Calcutta and Bombay prices :
1933-34				
April	23·250	3·406	4·563	
May	25·250	3·875	4·813	
June . ..	26·750	3·750	4·813	
July	28·375	3·813	4·938	
August	24·250	3·531	4·625	
September .. .	23·750	3·375	4·438	
October	22·750	2·969	4·188	
November	23·250	3·375	4·313	
December	22·125	3·188	3·750	
January	22·375	3·281	3·938	
February	21·000	3·313	4·188	
March	21·375	3·031	3·875	
1934-35				
April	22·000	3·250	3·938	
May	23·500	3·125	4·125	

(*a*) Shillings per 480 lbs. of Australian wheat (cargoes), c.i.f., parcels, shipping current month—International Review of Agriculture, Rome.

(*b*) Rupees per maund, "club no. 2"—The Indian Trade Journal.

(*c*) Rupees per cwt., "Delhi no. 1, white pessy"—The Indian Trade Journal.

——	(a) London prices	(b) Calcutta prices	(c) Bombay prices
1934-35—(*concld.*)			
June	24·000	3·156	4·188
July	26·750	3·063	4·000
August	29·250	3·156	4·000
September	27·750	2·938	3·750
October	25·250	2·875	3·875
November	23·750	3·125	4·063
December	23·125	3·250	4·125
January	23·500	3·719	4·688
February	24·000	3·375	4·313
March	27·000	3·125	4·063
1935-36			
April	28·000	3·250	4·313
May	26·750	3·250	4·250
June	26·000	3·250	4·125
July	26·500	3·313	4·125
August	27·250	3·250	4·125
September	30·750	3·438	4·313
October	32·625	3·656	4·750
November	29·250	3·375	4·563
December	30·750	3·500	4·563
January	31·000	..	4·391
February	30·000	..	4·406
March	30·750	..	4·438

(*a*) Shillings per 480 lb. of Australian wheat (cargoes), c.i.f., parcels, shipping current month—International Review of Agriculture, Rome.

(*b*) Rupees per maund, "club no. 2"—The Indian Trade Journal.

(*c*) Rupees per cwt., "Delhi no. 1, white pessy"—The Indian Trade Journal.

31. The different statistical co-efficients work out as follows : Statistical co-efficients.

TABLE IX

——	London	Karachi	Calcutta	Bombay	
Average price (Rs. per maund).	2·955	2·797	3·314	3·130	
Standard deviation	0·355	0·207	0·244	0·223	
Coefficient of variation.	12·014%	7·401%	7·348%	7·122%	
Coefficient of correlation between prices at London and——.	..	+0·431	+0·226	+0·367	low correlation.
Probable error of the coefficient of correlation.	.	±0·092	±0·111	±0·097	

32. The co-efficients of correlation arrived at above are low and having regard to their relatively high probable error it may be said that there is little correlation between the prices under consideration. In other words, foreign prices of wheat have had little influence on those at the Indian ports during the last three years. This is to be accounted for, almost completely, by the existence, during the period under consideration, of a customs duty on wheat imported into British India. The Wheat (Import Duty) Act was passed on the 5th April, 1931, levying an import duty on wheat of Rs.2 per cwt. with effect from the 20th March, 1931. This rate was continued until 13th April, 1935, when the duty was reduced to Re.1-8 per cwt. With effect from the 9th April, 1936, the duty on wheat imported into India has been reduced to Re.1 per cwt. Import duties, by hampering free competition, tend to break the unity of the world market, with the result that world economy resolves itself into an aggregate of more or less independent national economic systems. All influences due to changes in foreign prices are shut out by the invisible wall set up by an import duty. The above result is thus in consonance with theoretical expectations. due to import duty. General effect of import duties.

33. At the present, therefore, foreign influences play practically no part in the determination of the prices of wheat in India and therefore in the United Provinces. The extent The extent of the effect of import duty.

to be measured by

to which this is an effect of the duty imposed on wheat imported into India can be measured directly by the degree of correlation existing between the prices of wheat at London and Karachi before the duty was levied. Table X below gives the prices of wheat in London and at Karachi at the end of each month during the two years preceding the Wheat (Import Duty) Act of 1931, that is, from April, 1929 to March, 1931 :

London and Karachi prices before the duty :

TABLE X—*Monthly Wholesale Prices of Wheat at London and Karachi.* (1929—31)

	London prices (*a*) (Shillings per quarter)	Karachi prices (*b*) (Rupees per candy)
1929-30		
April ..	44·750	40·000
May ..	40·000	37·125
June ..	43·000	36·500
July ..	52·250	40·000
August ..	50·000	40·125
September	45·500	40·000
October ..	42·000	38·625
November	48·000	38·500
December	48·750	39·188
January ..	44·500	36·375
February	40·500	35·250
March ..	39·250	32·500
April	39·750	32·500
May	41·250	31·688
June	37·500	27·750
July	36·750	26·500

(*a*) Prices of "Australian wheat, c.i.f., shipping current month" international Review of Agriculture, Rome.

(*b*) Prices of "Punjabi White, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red"—The Indian Trade Journal.

	London Prices (*a*)	Karachi prices(*b*)
	(Shillings per quarter)	(Rupees per candy)
1930-31—(*concld.*)		
August	35·250	25 625
September ..	29·750	21·000
October	29·500	21·188
November ..	27·250	17·750
December ..	25·500	17·375
January	21·750	19·875
February.. ..	21·583	19·250
March	21·000	19·000

34. The following statistical coefficients are calculated from the above table :

TABLE XI

	London	Karachi
Average price (Rs. per maund)	4·296	3·824
Standard deviation	1·044	1·038
Co-efficient of variation	24·301%	27·144%
Co-efficient of correlation (r)	+0·894	
Probable error of (r)	±0·028	

statistical co-efficients.

35. The high coefficient of correlation, with a low probable error, goes to indicate that during the period preceding the imposition of import duty, the price of wheat at Karachi followed to a very marked degree the fluctuations in the foreign prices of wheat. At present, however, foreign prices have little influence in the Indian wheat market (*c*). The drastic and capricious character of the restrictions to which international trade in general and in cereals in particular has been subject

high correlation.

(*a*) Prices of "Australian wheat, c.i.f., shipping current month."—International Review of Agriculture Rome.

(*b*) Prices of Punjab White, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red."—The Indian Trade Journal.

(*c*) *Cf. paragraph* 32.

during the last few years has disorganized it to such an extent that of the former unity of the world market there is now left little more than a memory. It is, however, to be remembered that foreign competition is always a potential influence, if not an actual force, in the determination of prices.

Foreign competition a potential influence.

Trade impediments and their effect :

36. Besides customs duties, the other factors which contribute to the difference between prices of a commodity in any two countries at a particular period of time include—

(1) freight charges, and

(2) "miscellaneous charges" for loading and unloading, insurance, interest, commission, etc.

Customs duty, freight charges (*a*) and "miscellaneous" charges together thus normally determine the difference between the prices of a commodity in any two countries trading with each other, and the difference in prices tends to vary directly in accordance with the changes in any of these three items. So long as the difference between prices in any two countries is less than the sum of these three charges, trade cannot ordinarily take place between those two countries, but as soon as it tends to exceed this sum, exports would flow from one country to the other. It follows that these three items together set a "limit" to the difference in prices *within* which price in one country would be uninfluenced by that in another but *beyond* which the effect of foreign price and foreign competition would be resumed in spite of the existing duties and charges. In other words, if the price of a commodity in one country be taken as fixed, there would exist, corresponding to every given rate of import or export duty and freight and "miscellaneous" charges, certain "limits" to the price of that commodity in another country beyond which imports or exports would take place. It would be interesting to calculate an approximation to such limits for the prices of Indian wheat in competition with Australian wheat in the London and the Indian wheat markets.

"miscellaneous" charges,

and freights

37. The "miscellaneous" charges generally work out to a trifling amount and their rates do not, under normal circumstances, vary materially from time to time or place to place within a country. Besides, in a comparison of the relative positions of two countries in respect of export or import of a commodity, these charges appear on both the sides and more or less cancel. Freight charges, however, play an important part in determining the direction of trade. Table XII below gives the rates of freight on wheat from Karachi and Western Australia to London at the end of each month during the period from April, 1929 to March, 1931, and from April, 1933 to March, 1936, along with their annual averages :

(*a*) Including duties of octroi, etc., if any.

TABLE XII—*Monthly freight rates on wheat from Karachi and Australia to London*

Month	Freight from Karachi to London (*a*)					Freight from Australia to London (*b*)				
	1929–30	1930–31	1933–34	1934–35	1935–36	1929–30	1930–31	1933–34	1934–35	1935–36
	(Shillings per 18 cwt.)					(Shillings per long ton)				
April ..	17 6	15 6	19 0	21 0	21 0	26 3	24 6	21 9	22 6	23 6
May ..	17 6	15 0	24 0	20 0	20 0	25 0	25 0	21 3	24 0	24 0
June ..	17 0	15 6	25 0	20 0	19 0	24 0	26 3	21 3	23 10·5	24 6
July ..	19 0	15 0	25 0	21 0	19 0	29 0	25 0	23 6	24 6	24 6
August ..	20 0	17 0	22 0	22 0	17 0	29 6	32 0	n.q.	24 6	24 6
September ..	19 6	16 0	20 6	23 0	22 6	31 0	33 6	n.q.	26 9	24 6
October ..	21 6	16 0	23 0	22 0	35 0	30 0	31 0	23 9	27 6	27 6
November ..	19 6	17 0	22 0	22 0	40 0	24 0	29 0	24 9	25 6	27 6
December ..	18 0	24 0	24 0	21 0	34 0	24 6	30 9	25 6	25 6	27 6
January ..	16 0	20 6	24 0	20 0	23 0	22 9	30 0	24 6	24 6	27 0
February ..	16 0	18 0	23 0	22 0	23 0	20 0	30 0	25 0	22 0	27 0
March ..	16 6	17 6	21 0	23 0	21 0	22 6	28 6	22 6	22 0	27 0
Average ..	18 2	17 3	22 8·5	21 5	24 6·5	25 8·5	28 9·5	23 4·5	24 5	25 9
	17 8·5		22 10·7			27 3		24 6		

n.q.=not quoted. (*a*) From the Indian Trade Journal. (*b*) Rates on full cargoes—The International Review of Agriculture, Rome.

Failure of Indian exports statistically explained.

38. The average price of wheat at Karachi during the period from April, 1929 to March, 1931, was Rs.3·824 per maund (*a*). The average freight rate on wheat from Karachi to London during the same period was Re.0·480 per maund. The average price of Karachi wheat in London during the two years preceding the imposition of duty, therefore, roughly works out to Rs.(3·824+0·480) or Rs.4·304 per maund *plus* the charges per maund for loading and unloading, insurance, interest, commission, etc. The average price of Australian wheat in London during the same period was Rs.4·296 per maund(*a*). There was thus a *minimum* difference of Re.0·008 per maund in favour of Australian wheat. In addition to its comparative cheapness in the London market, the Australian wheat was of a superior quality as compared to Karachi wheat which includes "5 per cent. barley, 3 per cent. dirt and 30 per cent. red grains". Consequently India could not maintain her exports of wheat against the competition from Australia. Indeed, Australian wheat successfully competed with Indian wheat even in the Calcutta market.

Present "limiting" price for Indian exports

39. Considering the period from April, 1933 to March, 1936, the average price of Australian wheat in London has been Rs.2·955 per maund(*b*), and the average freight rate on wheat from Karachi to London during the same period has been 22·9 sh. per 18 cwt. or Re.0·621 per maund. As long, therefore, as the price of Australian wheat in London remains at the level of Rs.2·955 per maund, the price of Indian wheat at Karachi, if it is to compete successfully with the Australian wheat in the London market, must not exceed Rs.(2·955—0·621) or Rs.2·334 per maund. If the "miscellaneous" charges are taken into account, the "maximum limit" has to be lowered still further. It must be, however, clearly borne in mind that if the prices of Australian wheat or the rates of freight vary so as to materially alter the relative positions of the two countries as suppliers of wheat in the London market, the "limit" given above will have to be modified accordingly. But provided the freight rates on wheat from Australia and Karachi to London do not vary so as to disturb the relative strength of Australia and India, a similar "limiting" price could always be obtained by raising or lowering the above price to the extent to which the price of Australian wheat in London goes up or down. The figure of Rs.2·334 per maund as the maximum price-limit for the export of Indian wheat will also have to be modified in accordance with the difference in the quality of grain of the two

(*a*) *Vide* Table XI. (*b*) *Vide* Table IX.

countries. It will be noted that the actual average price of wheat at Karachi during 1933—36 has been Rs.2·797 per maund (*a*), i.e., Re.0·463 per maund higher than the maximum price calculated above.

Australian imports before the duty.

40. The price-limits at which Australian wheat can successfully compete with Indian wheat in the Calcutta market under different conditions may also be similarly calculated, subject to the assumptions and reservations mentioned in the preceding paragraph. The average freight rate on wheat from Australia to London during 1929—31 was Re.0·665 per maund. The price of Australian wheat in Australia during that period was, therefore roughly Rs.(4·296—0·665) or Rs.3·631 per maund *minus* charges per maund for loading and unloading, insurance, interest, commission, etc. The difference between the average price of Australian wheat in Australia and Karachi wheat in Karachi during 1929—31 thus works out to a little over Re.0·193 per maund in favour of Australian wheat. This favourable difference in the price together with its comparatively superior quality enabled Australian wheat to gain an economic entry into the Calcutta market against the resistance of Indian wheat during the two years ending March, 1931.

Present "limiting" price for Australian imports without the duty.

41. Considering the period 1933—36, the average freight on wheat from Australia to London has been Re.0·600 per maund. The price of Australian wheat in Australia during 1933—36, therefore, roughly works out to Rs.(2·955—0·600) or Rs.2·355 per maund minus "miscellaneous" charges per maund. Australian wheat, it has been seen above, succeeded against Indian wheat in the Calcutta market during 1929—31 when a difference of about Re.0·193 per maund existed between the prices of Australian wheat in Australia and of Indian wheat in Karachi. If it be assumed that Australian wheat could still successfully compete in the Calcutta market with only the same margin of difference in the prices in its favour as during 1929—31—and this should not be an unreasonable assumption considering that the average freight per maund of wheat from Australia to London has decreased from Re.0·665 during 1929—31 to Re.0·600 during the last three years—it follows that Australian wheat would begin to be imported into Calcutta if the price of Karachi wheat at Karachi be not lower than Rs.(2·355+0·193) or Rs.2·548 per maund. The actual average price of Indian wheat at Karachi during 1933—36 having been Rs.2·797 per maund, it is clear that but for the duty levied on wheat imported into India during this period, Australian wheat would have easily ousted Indian

(*a*) *Vide* Table IX.

wheat not only from the Calcutta market but also from some of the up-country markets.

Present "limiting" price for Australian imports in spite of the duty.

42. The duty levied on wheat imported into British India at present amounts to Re.1 per cwt. or Re.0·732 per maund. The lowest limit of the price of Indian wheat at Karachi at which it would be possible for Australian wheat to be imported into Calcutta in spite of the existing import duty is thus raised from Rs.2·548 per maund to Rs.(2·548+0·732) or Rs.3·280 per maund. It may be pointed out once again that the above extreme limits at which wheat would tend to be exported from Karachi to the London market, namely, Rs.2·334 per maund, or foreign (Australian) wheat to be imported into India (Calcutta), namely, Rs.3·280 per maund, are subject to the assumptions that the price of Australian wheat in London is Rs.2·955 per maund, that the import duty remains at its present level of Re.1 per cwt., that there is no appreciable difference in the quality of Indian and foreign (Australian) wheat and that the changes in prices, freight rates or conditions of production and trade do not take place so as to disturb materially the line of argument adopted or the averages considered above.

Corresponding "limiting" prices at Calcutta.

43. It will be interesting to find out the prices of wheat at Calcutta and Hapur corresponding to the price-limits of wheat at Karachi calculated above. The co-efficient of correlation between the prices of wheat at Karachi and Calcutta during 1933—36, as given in Tables VI and VIII, works out to +0·895. Considering the statistical co-efficients given in Table IX, the equation to the line of regression of the prices at Calcutta on those at Karachi would be as follows :

$$Y = 1{\cdot}033x + 0{\cdot}438 \quad \ldots \quad (I)$$

The prices of wheat at Calcutta corresponding to the prices of Rs.2·334 and Rs.3·280 per maund at Karachi come, from the above equation, to Rs.2·849 and Rs.3·826 per maund respectively. These, then, are the most likely prices of wheat at Calcutta at which Indian wheat would tend to be exported from Karachi or foreign (Australian) wheat to be imported into Calcutta respectively. The actual average price of wheat at Calcutta during 1933—36 has been Rs.3·314 per maund; hence India had little foreign trade in wheat during this period.

and Hapur.

44. Similarly, considering the statistical co-efficients given in Table VII, the regression of the prices of wheat at Hapur on those at Karachi is expressed by the following equation :

$$y = 1{\cdot}219x - 0{\cdot}946 \quad \ldots \quad (II)$$

The most likely prices of wheat at Hapur corresponding to the "limiting" prices of Rs.2·334 and Rs.3·280 per maund at Karachi, when wheat would tend to be exported from India (Karachi) or imported into India (Calcutta), work out from equation (II) above, to Rs.1·899 and Rs.3·052 per maund respectively. Actually, the average price of wheat at Hapur during the three years 1933-34 to 1935-36 has been Rs.2·463 per maund.

45. The lowest prices of wheat at Calcutta and Hapur corresponding to the limiting price of Rs.2·548 per maund at Karachi when foreign (Australian) wheat would tend to be imported into India (Calcutta) if there be no import duty, work out from equations (I) and (II) above, to Rs.3·070 and Rs.2·160 per maund respectively. The results of this and the preceding paragraphs are summarized in Table XIII below :

TABLE XIV—*Monthly whole prices* (*a*) *of wheat at Lyallpur Karachi, Hapur and Calcutta*

Summary of "limiting" prices.

[When the price of Australian wheat in London is (Rs.2·955+p (*a*) per maund.]

(*Rupees per maund*)

—	Average price during 1933—36	The Upper "limiting" price when foreign wheat would tend to be imported (from Australia into Calcutta)		The lower "limiting" price when Indian wheat would tend to be exported (from Karachi to London)
		When the rate of import duty is Re.1 per cwt.	When no import duty be levied	
1. Karachi ..	2·797	3·280+p	2·548+p	2·334+p
2. Hapur ..	2·463	3·052+1·219p	2·160+1·219p	1·899+1·219p
3. Calcutta ..	3·314	3·826+1·033p	3·070+1·033p	2·849+1·033p

(*a*) "p" being any constant.

CHAPTER IV

THE PRICE IN THE PRINCIPAL *mandi*: HOME INFLUENCES

The scope of the chapter:

46. It has been seen that foreign prices of wheat have at present little influence on those in the United Provinces on account of the existing duty on wheat imported into India. It is next to be seen how far there exists in India itself a competitive market for cereals, that is, to what extent prices of cereals in the United Provinces follow the trend of Indian prices outside the province. It is, therefore, proposed in this chapter to find a measure of the influence which the external prices of cereals exert on those within the province, the average difference which usually exists between the two sets of prices and the main causes of that difference.

qualitative and quantitative determination of the effect of Indian influences.

Lyallpur prices:

47. Table XIV below gives the wholesale prices of wheat at Lyallpur at the end of each month from April, 1933 to March, 1936. Similar prices at Hapur and Karachi have been given in Table VI and at London, Calcutta and Bombay in Table VIII.

TABLE XIV—Monthly whole prices (*a*)of wheat at Lyallpur (1933—36)

——	1933-34	1934-35	1935-36	——	1933-34	1934-35	1935
1	2	3	4	1	2	3	4
April ..	3·156	1·969	2·203	October ..	2·219	2·000	2·625
May ..	2·844	2·172	2·219	November	2·344	2·406	2·594
June ..	2·781	2·109	2·234	December	2·141	2·266	2·531
July ..	2·969	2·078	2·266	January ..	2·172	2·531	2·406
August ..	2·406	2·109	2·125	February..	2·203	2·078	2·328
September	2·469	1·922	2·313	March ..	1·750	2·094	2·375

statistical co-efficients,

48. The statistical co-efficients deduced from the above table are as follows:

TABLE XV

	Lyallpur
Average price (Rs. per md.)	2·317
Standard deviation	0·292
Coefficient of variation	12·603 per cent.
Coefficient of correlation with Hapur prices (*r*) ..	+0·876
Probable error of (*r*)	+0·026

(*a*) Prices in rupees per maund, of "white wheat, 1½ per cent., dirt, 2 per cent. barley."—*The Indian Trade Journal.*

49. There is thus a high degree of correlation between the fluctuations in prices at Hapur and Lyallpur. The co-efficient of correlation between the prices at Hapur and Karachi, it has been seen, is also high, being +0·774. And since Karachi prices are highly correlated with the Calcutta prices, the co-efficient of correlation having been calculated at +0·895, it follows that the correlation between the latter and the Hapur prices must also be high. The prices of wheat at Bombay are also similarly correlated with those at Hapur. To sum up, the changes in the prices of wheat at Hapur are highly sensitive to those outside the United Provinces. In other words, there exists a competitive market for wheat (and other cereals) within India and that prices tend to be equal in the different *mandis* of the country. A minimum of difference must, however, necessarily exist between the prices in the different *mandis* on account of the cost of transportation and such other factors.

high correlation with Hapur prices;

prices in the United Provinces highly influenced by those outside the province.

50. Amongst the factors contributing to the differences in prices in the various *mandis* in the United Provinces and India, the first to be considered is the disparity in the quality of grain. In fact, prices are not strictly comparable if there exist differences in the quality of grain to which they refer. Lack of uniform grading hampers ready comparison of prices, while absence of proper grading tends to introduce a feeling of uncertainty amongst the traders and a wave of unsteadiness in the prices. Unfortunately, however, no concerted attempt has so far been made at organised grading even in the principal *mandis* of the United Provinces. Cereals may be graded with respect either to the quality and type of the grain proper or to the quantity and quality of the *karda* or *khad* (e.g., inferior grains, cheaper cereals and dust) mixed up with the main cereal. Scientific grading of the first type is almost completely absent in the *mandis* of these provinces, and when orders for the purchase of cereals at any fixed price are sent, an assumption as to the quality expected is generally made on the basis of the buyer's knowledge of the type and the quality of grain usually coming from the place where the order has been placed. For example, Chandausi wheat is usually understood to sell about 2 annas per maund dearer on account of the superior quality of the grain. An approach to systematic grading of the second type is made in the rules observed in most of the organised *mandis* of the United Provinces, which lay down the maximum amount of dust or dirt and inferior grains (like barely or red wheat in a stock of white wheat) admissible for purposes of delivery in lieu of a contract without a discount in the price. This system has a glaring defect in that it leaves

Differences in prices due to— (i) differences in quality of grain;

lack of proper grading,

two types of grading— (*a*) qualitative and (*b*) quantitative;

systematic qualitative grading completely absent in the United Provinces;

quantitative grading existent but inefficient;

little incentive to a businessman to preserve an unmixed and clean stock of cereals, because it does not pay a seller to put in the stock any less than the maximum of *karda* permissible under the *mandi* rules. It was indeed pointed out in one of the biggest *mandis* for wheat in the United Provinces that the stockists in the *mandi* did not take enough care to avoid or minimise damage to the quality of wheat stocked in *khattis* (grain-pits) because all *khatti*-stocked wheat would ordinarily fetch the same wholesale price so that it did not pay to incur extra trouble or expenditure on the manner of stocking as long as the quality of the grain did not fall below the standard commonly accepted or permitted by the *mandi* rules.

(ii) differences in measures of weight ;

51. Before passing on to the more important causes of differences in prices, it may be well to point out here another hindrance to the ready comparison of prices as quoted in the different *mandis*, namely the disparity in the measures of weight. The measures of weight in the United Provinces differ not only from district to district but in some cases even within the same district. For example, in the Gorakhpur district sale of cereals in the villages is commonly effected not by weighment but by measurement with a wooden or brazen pot, known as the *razia*, whose capacity, though known, is naturally different for different cereals, and the prices are settled in terms of *razias* per rupee. The districts of Meerut, Dehra Dun, Budaun, Etah, Cawnpore, Aligarh, Bulandshahr, Fyzabad, Bahraich, Partabgarh, Allahabad, Banda and Jhansi have, in general, got a seer of 80 tolas. The measures of weight most commonly found in some other important districts of the United Provinces are given below. Generally, however, for purposes of wholesale transactions the actual measures are a little greater than the standard measures.

TABLE *XVI—Measures of weight in some important districts of the United Provinces*

Name of district	Equivalent of 1 seer in tolas
Muzaffarnagar	88
Saharanpur	86 (In some places, 88).
Bijnor	90
Moradabad	100
Bareilly	100
Pilibhit	104 (In some places, 105 or 106).
Gorakhpur	144 (*pukka*), 128 (*kachcha*).
Benares	88 (87 5/8).

52. In addition to differences in the quality and the unit of measurement of the grain, two other important factors leading to differences in the prices of cereals in any two *mandis* are the "*mandi* charges" and the cost of transportation including octroi and terminal taxes, if any. While the outstanding importance of the cost of transportation in this connexion is recognised on all hands, the "*mandi* charges" do not always receive due attention. Prices of the same commodity in any two *mandis* ordinarily differ by the amount of cost of transportation and other expenses per unit that the importer has to incur. It is, therefore, incorrect to say that "the prices that rule in a market are the prices at the consuming centres *minus* the conveyance charges", unless no "*mandi* charges" or other expenses have to be paid by the importer. Similarly the statement that "a *mandi* which is nearer to the consuming centres will, in general, have higher prices than one farther away" is subject to the assumption that the "other expenses" in the former *mandi* either are equal to those in the more distant *mandi* or do not exceed them by too great a margin.

(iii) "*mandi* charges"; and (iv) cost of transportation.

The importance of "*mandi* charges."

53. The "*mandi* charges" differ from place to place and even within the same *mandi* from client to client according to the size of the transactions, their regularity and the nature of personal relations between the buyer or seller on the one hand and the commission agent on the other. The variations in the "*mandi* charges" are, however, more marked in *kachchi arhat* (which is the medium through which the produce coming to the *mandi* from surrounding villages is sold) than in *pukki arhat* which covers all wholesale commercial imports into and exports from the *mandi*. In Table XVII below are given the average "*mandi* charges" in the *mandis* of Hapur, Chandausi, Bareilly, Cawnpore and Benares. Hapur and Chandausi keep large stocks of wheat and represent the wheat exporting *mandis* of the United Provinces, while Bareilly, Cawnpore and Benares are large consuming centres for wheat and represent the importing *mandis* of the province. The charges detailed below—which, it is to be remembered, vary considerably—represent the "*mandi* expenses" which, on an average, are borne by businessmen who import wheat through *pukka arhatis* in Hapur and Chandausi or who send their wheat to the *pukka arhatis* in Bareilly, Cawnpore and Benares for purposes of local sale. The total "*mandi* charges" per Rs.100 as well as per maund in the above *mandis* are given in the last two columns of the following table. The average price of wheat at Hapur during the three years 1933—36, namely Rs.2·463 per maund has been taken as the basis for these calculations.

The "*mandi* charges" vary greatly.

Mandi charges in some Important *mandis*.

TABLE XVII—Mandi *charges in some important principal* mandis *of the United Provinces*

(pukki arhat)

Name of *mandi*	*Mandi* charges per Rs.100				Total *mandi* charges	
	Arhat (agency commission)	*Tulai* (weighment charges)	*Dharmada, Goshala*, etc. (charity)	Other charges	per Rs.100	per maund
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs.	Rs.
(A) Hapur ..	0 8 0(*a*)	1 4 0	0 0 6	..	1·781	8·4
(B) Chandausi ..	0 8 0	1 9 0	0 1 0	..	2·125	10·0
(C) Bareilly ..	0 8 0	1 9 0(*b*)	0 0 6	..	2·094	9·9
(D) Cawnpore ..	0 4 0(*c*)	1 9 0	0 1 6	..	1·906	9·0
(E) Benares ..	0 12 0	0 8 0	0 1 0	0 1 8(*d*)	1·417	6·7

(*a*) The *arhat* rate varies widely, generally in accordance with the size of the transaction. The most common rates are 8 annas and 10 annas per Rs.100.

(*b*) When, as in some cases, a *tulai* of only Re.1 per Rs.100 is charged charges in kind are made in addition to *tulai*. The total *tulai* charge, in reality, therefore comes to about Re.1-9 per Rs.100.

(*c*) The *arhat* charge varies very widely in individual cases. The rate of 4 annas per Rs.100 is the minimum.

(*d*) The charge is mainly for *munimi* (clerkage) and correspondence, about 8 pies for the former and 1 anna for the latter.

The components of *mandi* charges : '*arhat*", '*tulai*" and '*dharmada*";

54. As is clear from the table above, the principal *mandi* charges payable by a tradesman to the *pukka arhati* through whom he buys or sells are those for *arhat* (commission), *tulai* (weighing) and *dharmada* (charity). In addition to these the bill of the *pukka arhati* also includes charges for *palledari* (manual labour) and cartage to or from the station and the terminal tax payable on the transaction, if any. These charges, however, properly fall under the cost of transportation. Several additional charges, under various names, are often payable in *mandis* in large consuming centres where outside businessmen send their cereals for sale through local *arhatis*. The most common amongst such charges are those for *munimi* (clerkage) and/or correspondence. The former generally varies from one anna to four annas per 100 bags and the latter from 4 to 8 annas per 100 bags. In some *mandis*, a charge of about 4 annas per Rs.100 is also made for *dalali* (brokerage). Sometimes a godown rent, ranging from Re.1 to Rs.2 per 100 bags but generally amounting to Re 1-9

"*palledari*", "cartage" and octroi;

"*munimi*" and correspondence;

"*dalali*"; godown rent;

(i.e., one pice per bag) per month, is charged if the cereals sent by the outside client are not sold within a fixed period (generally one month) from the date of receipt. In a few *mandis* a charge is made for what is known as *shagirdi* (wages of unpaid apprentices), ranging from 2 annas to 4 annas per Rs.100. Other charges include interest on money advanced, if any, the rate of interest being generally 10 or 12 annas per Rs.100 per month; insurance commission, if any, amounting to about 8 annas per 100 bags; and railway freight on empty bags, which are usually returned, at about 4 annas per 100 bags. It will be seen that most of these charges either do not properly fall under "*mandi* charges" (for example, interest) or are of an exceptional nature (e.g., godown rent); and the competition of commerce is, in practice, tending to eliminate them. It has been pointed out that the *mandi* charges are not the same in all the *mandis* of the United Provinces and that they differ even within the same *mandi* with different *arhatis* and clients, so that only a rough average of such charges as are most commonly made may be given. Accordingly, these additional charges must be left out of account.

"*shagirdi*";

interest and insurance;

freight on empty bags.

55. The *arhat* is a commission taken by the *arhati* for the services he renders to the buyer or the seller in the *mandi* where goods are bought or sold. It is a return for the benefit he confers on the buyer or the seller by securing him the best price and is, as it were, a rent for the use of his specialised knowledge of the market conditions in his *mandi*. The rate of *arhat* for cereals in the *mandis* of the United Provinces tends to vary inversely with the importance and the efficiency of organisation of the *mandi*, and within the same *mandi* with the amount and the regularity of custom promised by a client. The rate varies from 6 annas to Re.1 per Rs.100, but in extreme cases—such cases being naturally rare—it may surpass even these limits. The actual rate is settled by mutual agreement and is dependent in no small measure on the nature and closeness of the *arhati's* personal relations with the particular client. The rate of *arhat* most commonly charged in the principal *mandis* of the United Provinces is 8 annas per Rs.100. Thus the average *arhat* rate in the *mandis* of Hapur, Ghaziabad, Chandausi, Meerut, Saharanpur, and Bareilly is 8 annas per Rs.100. The *arhat* rate in the *mandi* of Muzaffarnagar is commonly Re.1 per Rs.100 but from the big flour mills at Delhi and Calcutta a rate of only 8 annas per Rs.100 is charged. Eight annas per Rs.100, or ½ per cent., thus appears to be the standard average rate of *pukki arhat* in the principal *mandis* of the United Provinces.

The common *mandi* charges analysed—

(i) "*arhat*" a rent for use of *arhati's* specialised knowledge;

the rates of *arhat*;

(ii) "*tulai*", the weighman's charge;

56. The next item under "*mandi* charges" is what is commonly termed as *tulai*. When the *pukka arhati* buys cereals in his *mandi* for sending them to an outside client in compliance with the latter's orders, he has to pay the *tulai* to the *kachcha arhati* through whom he buys. *Tulai*, therefore, does not form part of the income of the *pukka arhati* but is intended to compensate him for the expenses he has incurred in buying cereals for his client or in selling them on his behalf. Actually, however, the *pukka arhati* does make a profit out of *tulai*; for, in practically every *mandi* a part of *tulai* is refunded by the *kachcha arhati* to the *pukka arhati* under various names, e.g., *dami, karda, shagirdi, goshala* or in consideration of cash payment. This refund is appropriated by the *pukka arhati* to himself since he charges full *tulai* from his clients. In a few *mandis*, however, no *tulai* is charged and in some others, no refund is made even though a charge for *tulai* is made. The most common rate of *tulai* in the principal *mandis* of the United Provinces is one pice per rupee, that is, Re.1-9 per Rs.100 and the rate of the refund, Re.0-6-3 per Rs.100. The usual rate of *tulai* in the *mandis* of Ghaziabad, Chandausi, Meerut, and Saharanpur is Re.1-9 per Rs.100. The rate of *tulai* in Hapur is Re.1-4 per Rs.100. The usual rate of refund varies even in these *mandis* and is Re.0-10-0 per Rs.100 in Hapur, Re.0-8-3 per Rs.100 in Ghaziabad and Re.0-12-6 per Rs.100 in Chandausi. The buyer has, however, to pay the full amount of the *tulai* in all these *mandis*.

the rates of *tulai*;

(iii) "*dharmada*" or charity fund,

57. The last item to be considered under the "*mandi* charges" is *dharmada* (charity). This is a small charge, varying from 6 pies per Rs.100 in many *mandis* to Re.0-2-3 per Rs.100 in Budaun under the name of *goshala*. The most common rate is 1 anna per Rs.100. Generally no definite purpose is allotted to this charge, but a *dharma-khata* (charity account) is kept by every *arhati* to which the charge as it accrues is continually credited and the fund is utilised off and on for purposes of charity, the exact manner of its utilisation being decided generally by the *arhati* himself, e.g., the upkeep of some temple or *goshala* (cow-shed) or *pyau* (public place for drinking water) or subscription towards *Ramlila* (an annual Hindu celebration), etc. For the last object, however, a separate charge is generally made, in many cases in addition to ordinary *dharmada*.

the rates of *dharmada* charge.

The total *mandi* charges: (a) the "mode"

58. The total "*mandi* charges" which a businessman importing wheat or other cereals from a principal *mandi* in the United Provinces would most commonly pay(*a*) thus come to about Rs.2-2 per Rs.100 or 2·125 per cent. If the price of wheat be taken at Rs. 2·463 per maund (being the average

(*a*) that is, the "model" *mandi* charges.

price of wheat at Hapur during 1933—36), these charges amount to Re.0·052 or about 10 pies per maund. The actual "*mandi* charges" in the *mandis* of Ghaziabad, Chandausi, Meerut and Saharanpur ordinarily come to exactly this figure. The "mean" *mandi* charges in the principal *mandis* of the province would probably be a little less, amounting to about Rs.2 per Rs.100 or about 9·5 pies per maund. and (*b*) the "mean."

59. The last but undoubtedly the most important factor leading to differences in the prices in different *mandis* is the cost of transportation (*a*). Most of the trade in cereals between principal *mandis* is carried on by rail because the principal *mandis* are generally situated fairly far apart. The cost of transportation will, therefore, differ entirely according to the circumstances of each particular case, so that no general average of the cost of transportation between principal *mandis* can be worked out with any meaning. Evidently, however, the importance of this factor in determining the volume and the direction of the flow of trade cannot be exaggerated. No trade can ordinarily exist between any two *mandis* so long as the difference in the prices in the two *mandis* is less than the cost of transportation. It follows, therefore, that other things being equal, nearness to large markets would enable a *mandi* to obtain comparatively high prices and further, that of any two competing *mandis* the one which quotes lower prices would tend to have greater competitive strength. The cost of transportation : its importance

60. In Table XVIII below are tabulated the average prices per maund of wheat at Lyallpur, Hapur, Karachi, Bombay and Calcutta during the three years from April, 1933 to March, 1936, along with the differences of each from the other : differences in prices ;

TABLE *XVIII.—Differences in average wholesale prices of wheat in some important* mandis *of India* (1933—36)

—	Average price during 1933—36 (Rs. per maund)	Difference in prices (Rs. per maund)				
		Lyallpur	Hapur	Karachi	Bombay	Calcutta
Lyallpur ..	2·317	..	+0·146	+0·480	+0·813	+0·997
Hapur ..	2·463	—0·146	..	+0·334	+0·667	+0·851
Karachi ..	2·797	—0·480	—0·334	..	+0·333	+0·517
Bombay .	3·130	—0·813	—0·667	—0·333	..	+0·184
Calcutta ..	3·314	—0·997	—0·851	—0·517	—0·184	..

(*a*) The term "cost of transportation" has been used in this section so as to include duties of octroi and terminal taxes, if any.

the maximum possible margin for freight between Hapur and the ports.

61. The differences between the average prices of wheat at Hapur and at Karachi, Bombay and Calcutta are Re.0·334, Re.0·667 and Re.0·851 per maund respectively. The average *mandi* charges in the principal *mandis* of the United Provinces, it has been seen above, amount to Re.0·052 per maund. If the *palledari*, cartage and other expenses of loading wheat on rail in the principal *mandis* of the United Provinces and similar expenses at the place of destination (or origin) be together taken to amount, on an average, to about 6 pies, that is, Re.0·031 per maund, the maximum possible margin for railway freight on wheat exported from Hapur to Karachi, Bombay and Calcutta is reduced to Re.0·251, Re.0·584 and Re.0·768, that is, to about Re.0-4-0, Re.0-9-4 and Re.0-12-3 respectively. The actual railway freight on wheat from Hapur to Karachi is Rs.0-14-10 per maund and from Hapur to Calcutta 10 annas per maund. The latter has, however, been increased to Re.0-10-4 per maund from April, 1936.

United Provinces wheat *vs.* Punjab wheat—

62. The United Provinces and the Punjab are the two biggest wheat-producing provinces of India, the production of wheat in these two provinces taken together being, on an average, over 60 per cent. of the total wheat produced in India. Both normally export wheat (*a*) and consequently, the main competitor of the United Provinces in the Indian wheat market is the Punjab. The ports of Calcutta, Bombay and Karachi are amongst the chief wheat markets in India.

Hapur *vs.* Lyallpur in the wheat markets at the ports ;

Karachi was till recently the outlet for the export of wheat from the United Provinces and the Punjab to foreign countries but since the exports of wheat from India to foreign countries have practically ceased, Karachi mainly imports wheat for local consumption or for shipping to other Indian ports like Bombay and Calcutta. It is with reference to these three markets that the question of competition between wheat from Hapur and Lyallpur, one of the biggest *mandis* for wheat in the Punjab, will be considered.

the average prices at Lyallpur : the latter's competitive advantage.

63. Table XVIII shows the average difference between the prices of wheat at Hapur and Lyallpur to be Re.0·146 or about Re.0-2-4 per maund in favour of Lyallpur. If all other trade conditions be assumed to be equally favourable or unfavourable to both the *mandis*, Lyallpur, generally speaking, has been enjoying a competitive advantage over Hapur in that its price has been lower than that of Hapur. Actually other trade conditions are more in favour of Lyallpur than of Hapur, for not only is Lyallpur nearer to the port of Karachi, the main outlet for foreign export of Indian wheat, but it is also

(*a*) In 1935-36, however, the imports of wheat in the United Provinces exceeded the exports from the province.

economically nearer to the wheat markets at Bombay and Calcutta in that it commands cheaper sea freight rates via Karachi while Hapur wheat moves on inland routes. Thus Hapur, though geographically nearer to Bombay and Calcutta than Lyallpur, is deprived of its natural advantage. Table XIX below gives the average annual prices of wheat at Lyallpur, Hapur, Karachi, Bombay and Calcutta during the three years 1933-34 to 1935-36.

TABLE XIX—*Average annual prices of wheat in some important* mandis *of India* (1933—36)

The average annual prices at Hapur, Lyallpur and the ports,

Name of *mandi*	Price (in rupees per maund) during			Average price during 1933–36
	1933–34	1934–35	1935–36	
1. Lyallpur ..	2·455	2·145	2·352	2·317
2. Hapur	2·547	2·314	2·529	2·463
3. Karachi.. ..	2·841	2·659	2·891	2·797
4. Bombay.. ..	3·199	2·997	3·195	3·130
5. Calcutta.. ..	3·409	3·180	3·365	3·314

64. The following Table gives the differences between the annual prices at Hapur and Lyallpur and those at the three ports, during the last three years. and their differences.

TABLE XX—*Differences between annual prices of wheat in some important* mandis *of India*

Year	Difference (in rupees per maund) in prices at—						
	Hapur and Lyallpur	Karachi and—		Bombay and—		Calcutta and—	
		Hapur	Lyallpur	Hapur	Lyallpur	Hapur	Lyallpur
1933 34 ..	0·092	0·294	0·386	0·652	0·744	0·862	0·954
1934–35 ..	0·169	0·345	0·514	0·683	0·852	0·866	1·035
1935–36 ..	0·177	0·362	0·539	0·666	0·843	0·836	1·013

65. Table XIX above shows that during the three years under consideration, the price at Hapur declined from Rs.2·547 to Rs.2·529, that is, by Re.0·018 per maund, but that at the same time the Lyallpur price declined much more, The decline in Hapur's competitive strength generally

from Rs.2·455 to Rs.2·352, that is, by Re.0·103 per maund. Consequently, the difference between the prices at Hapur and Lyallpur increased by nearly 100 per cent. from Re.0·092 per maund in 1933-34 to Re.0·177 per maund in 1935-36. It follows that if changes in other prices and conditions be ignored, the competitive strength of Hapur against Lyallpur with reference to any market has diminished. Actually, other changes do not show any tendency to compensate this set-back to Hapur. According to Table XX above, the difference between the prices at Hapur and Calcutta increased slightly, from Re.0·862 per maund in 1933-34 to Re.0·866 per maund in 1934-35, but that between the prices at Lyallpur and Calcutta during the same period increased considerably, from Re.0·954 per maund in 1933-34 to Rs.1·035 per maund in 1934-35. Again, in 1935-36 while the Hapur difference went down to below its level in 1933-34, the Lyallpur difference, though it decreased as compared to 1934-35, still remained considerably above its level in 1933-34. Thus the capacity of Hapur wheat to bear freight rate and other exporting expenses with respect to the Calcutta market deteriorated compared to that of Lyallpur wheat. The same holds true in relation to the Karachi and Bombay markets. The difference between Hapur and Karachi prices increased from Re.0·294 per maund in 1933-34 to Re.0·345 per maund in 1934-35 and Re.0·362 per maund in 1935-36, but the corresponding difference for Lyallpur increased still more, from Re.0·386 per maund to Re.0·514 and Re.0·539 per maund respectively. Similarly, although the difference between Hapur and Bombay prices increased by Re.0·031 per maund during 1934-35 and by Re.0·014 per maund in 1935-36 (as compared to 1933-34), these increases were more than counter-balanced by greater corresponding increases in case of Lyallpur, of Re.0·108 and Re.0·099 per maund respectively. Thus while the position of Hapur with respect to Karachi and Bombay markets improved *absolutely* during the three years, it definitely deteriorated *relatively* to that of Lyallpur.

and in the markets at the ports particularly :

the consequences :

66. The results of this continual deterioration in the competitive strength of the United Provinces against the Punjab, combined with other factors, have been practically disastrous to the export trade of the United Provinces in wheat. Table XXI below shows the exports from and imports into the United Provinces, of wheat during the three years from 1933-34 to 1935-36. The figures are only too clear and speak for themselves : the exports of wheat from the United Provinces during the last two years have decreased by 2,647 thousand maunds or over 57 per cent. of those in 1933-34 while the

disastrous decline in exports of wheat from the United Provinces

imports have mounted up by 2,009 thousand maunds or just below 195 per cent., with the result that in 1935-36, probably for the first time in their history, the United Provinces stand as importers of wheat. The net exports of wheat from the United Provinces in 1935-36 show a decline of over 125 per cent. of those in 1933-34; in other words, the United Provinces imported in 1935-36 more than 25 per cent. of the quantity of wheat they exported in 1933-34.

TABLE XXI—*External trade of the United Provinces in wheat* (1933—36)

(*In maunds*)

——	1933-34	1934-35	1935-36
Exports	4,642,258	2,111,571	1,995,467
Imports	1,030,803	1,791,611	3,039,301
Net exports ..	3,611,455	319,960	—1,043,834

67. This decline in the exports of wheat has not been compensated by an increase in the exports of wheat flour from the province. On the contrary, the following Table shows that the net imports of wheat flour into the United Provinces in 1935-36 increased by 420 thousand maunds or over 102 per cent., as compared to 1933-34 : only aggravated by increase in imports of wheat flour.

TABLE XXII—*External trade of the United Provinces in wheat flour* (1933—36)

(*In maunds*)

——	1933-34	1934-35	1935-36
Imports	809,586	1,139 356	1,402,416
Exports	400,791	471,037	573,731
Net imports ..	408,795	660,319	828,685

68. Nor does the decline in the exports of wheat from the United Provinces during the last two years appear to be due to decrease in the yield. The yield of wheat in the United Provinces decreased from 2,572 thousand tons in 1933-34 The decline not due to decrease in yield,

to 2,529 thousand tons in 1935-36, that is, by 43 thousand tons or about 1,175 thousand maunds. But the net exports of wheat during the same period decreased by 4,655 thousand maunds, and even if this figure be diminished by the entire amount of the decrease in production, a decline of 3,480 thousand maunds in the net exports of wheat still remains to be accounted for. Clearly, then, adverse competition from outside the province, helped perhaps by comparatively high rates of freight (considered in relation to the price) within the province, must be considered responsible for the decline in the exports of wheat from the United Provinces during the last two years.

but mainly due to adverse competition.

Punjab's responsibility for decline in exports of wheat from United Provinces.

69. It is significant that the net exports of wheat from the Punjab increased from 4,678 thousand maunds in 1933-34 to 8,425 thousand maunds in 1935-36, showing an increase of 3,747 thousand maunds against the corresponding decline of 4,655 thousand maunds in those from the United Provinces. It would be interesting to see how far the Punjab shares the responsibility for this decline. Of the three big wheat markets of Calcutta, Karachi and Bombay, the United Provinces, in their competition with the Punjab, occupy the most advantageous geographical position with respect to Calcutta, which, accordingly, has been and still is their best customer, as the following Table shows:

The importance of the Calcutta wheat market to the United Provinces;

TABLE XXIII—Exports of wheat from the United Provinces and the Punjab to Calcutta, Bombay and Karachi (in thousand maunds)

	Exports of wheat—					
	From the United Provinces to—			From the Punjab to—		
	Calcutta	Bombay	Karachi	Calcutta	Bombay	Karachi
1	2	3	4	5	6	7
1916-17 ..	3,468	233	762	147	728	18,856
1917-18 ..	4,552	2,131	5,191	20	954	22,535
1918-19 ..	2,388	2,690	4,208	407	2,054	8,291
1919-20 .	1,864	614	33	1,110	2,550	2,093
1920-21 .	2,370	814	828	2,101	1,447	11,892
..	..	..	..	..	..	..
1933-34 ..	2,626	41	1	708	339	2,252
1934-35 ..	742	23	..	1,541	858	3,915
1935-36 ..	1,001	10	..	2,473	1,490	2,569

70. It will, therefore, be enough to consider the extent to which the Punjab wheat has replaced the United Provinces wheat in the Calcutta market. Table XXIV below gives the total imports of wheat into Calcutta as well as those from the United Provinces and the Punjab separately during the three years from 1933-34 to 1935-36. the competition of the Punjab

TABLE XXIV—*Imports of wheat into Calcutta* (1933—36)

Year	Total imports	Imports from the United Provinces	Imports from the Punjab
1933-34	3,608,547	2,626,082	707,698
1934-35	2,687,193	742,283	1,541,364
1935-36	4,095,400	1,001,347	2,472,778
Increase from 1933-34 to 1935-36.	486,853	—1,624,735	1,765,080

in the Calcutta market ;

71. The total imports of wheat into Calcutta during 1935-36 increased by 487 thousand maunds or a little over 13 per cent. of the total imports during 1933-34. Assuming that this increase should have been shared, under normal conditions, by all the exporting centres in proportion to their exports to Calcutta, the imports of wheat into Calcutta from the United Provinces in 1935-36 should have increased by about 354 thousand maunds and those from the Punjab by about 96 thousand maunds. Actually, the imports from the United Provinces *decreased* by 1,625 thousand maunds, thus showing an excessive decline of (1,625+354) or 1,979 thousand maunds; while those from the Punjab increased by 1,765 thousand maunds, showing thereby an excess of (1,765—96) or 1,669 thousand maunds over the *expected* imports. A decrease of 1,979 thousand maunds in the imports from the United Provinces has, therefore, to be set against an increase of 1,669 thousand maunds in those from the Punjab, which leaves a decline of only 310 thousand maunds in the imports from the United Provinces to be accounted for otherwise. It increase in imports from the Punjab mainly responsible for decrease in those from the United Provinces.

appears, therefore, that the heavy decline in the exports of wheat from the United Provinces to Calcutta during the last two years is to be practically completely accounted for by the corresponding increase in the imports of wheat into Calcutta from the Punjab. The comparatively small difference of 310 thousand maunds would be further narrowed down if the decrease of 1,065 thousand maunds in the yield of wheat in the United Provinces during the last two years be taken into account as a factor partly contributing to the decline in the exports of wheat from the United Provinces to Calcutta during the same period.

Adverse effect of competition from the Punjab in the Bombay and Karachi markets.

72. It may here be pointed out that the competition from the Punjab has not altogether spared the Bombay market either, although its effects in that market have naturally been less disastrous than those in the Calcutta market. Table XXIII shows that the imports of wheat into Bombay from the United Provinces decreased from 41 thousand maunds in 1933-34 to 10 thousand maunds in 1935-36, while those from the Punjab increased during the same period from 339 thousand maunds to 1,490 thousand maunds. As to the Karachi market, the United Provinces have been exporting practically no wheat to Karachi since India ceased to export wheat to foreign countries.

The export trade of the United Provinces in wheat is seriously threatened—

73. The singular importance of the Calcutta wheat market for the United Provinces has been already pointed out. Figures in columns (2) and (5) of Table XXIII above show how the United Provinces had been fighting a losing battle with the Punjab in the Calcutta market during the years from 1918-19 to 1920-21, that their position in 1933-34 was comparatively reassuring but that during the last two years, they have suffered an ominous set-back. The figures given in Table XXI

a crisis.

reveal a crisis threatening the export trade of the United Provinces in wheat, a crisis which has, in fact, already set in. The United Provinces are now importing wheat instead of exporting it. It is worth considering what the causes of this change are and whether, and to what extent, it is due to a decline in production or an increase in consumption or some other causes.

Causes and results of the crisis—

74. The following table gives the production, exports and imports of wheat (including wheat flour) in the United Provinces during the year 1920-21 and from 1933-34 to 1935-36(*a*).

(*a*) Statistics of inland trade are not available for the period from 1921-22 to 1932-33.

TABLE XXV—*Production, exports and imports of wheat (including wheat flour) in the United Provinces*

(In thousand tons)

——	1920-21	1933-34	1934-35	1935-36
Imports	148	67	107	163
Exports	233	185	95	94
Net imports	—85	—118	+12	+69
Production	2,374	2,572	2,554	2,529
Total available in the United Provinces.	2,289	2,454	2,566	2,598

75. That the decline in the exports of wheat from the United Provinces is not accounted for by the decrease in production has been shown already (*a*). As to increase in consumption, if the annual stocks of wheat (including wheat flour) in the province be assumed to be constant, the total consumption of wheat in the province amounted to 2,289 thousand tons in 1920-21 and 2,454 thousand tons in 1933-34, which shows an increase in consumption of 165 thousand tons or about 7 per cent. in the 13 years from 1921 to 1934. The population of the United Provinces during the period from 1921 to 1931 also increased by about 7 per cent., so that the above estimate of the increase in consumption seems to be fair. The rate of annual increase in the consumption of wheat in the United Provinces thus roughly works out to 13 thousand tons. At this rate the increase in the consumption of wheat in the province during the last two years would amount to about 26 thousand tons. Actually, the excess of wheat available in the United Provinces in 1935-36 over that in 1933-34 was 144 thousand tons. This leaves a surplus of about 118 thousand tons of wheat unaccounted for. It is possible that the rate of increase in the consumption of wheat during these two years was higher than before 1933-34 on account of change in the taste of the people (substitution of wheat for other cereals) probably due to the comparative cheapness of wheat during recent years, or of an increase

causes :

neither decrease in production,

nor increase in consumption ;

(*a*) *Vide* paragraph 68.

in the consumption of wheat per head. But even if decrease in production and increase in consumption of wheat in the province contributed to the decline in the wheat exports of the province, these two causes by themselves do not account for the whole difference.

results : present effects.

76. It therefore appears that stocks in the province must have increased considerably during the last two years. This conclusion is in conformity with the evidence of leading *mandi* businessmen and speculators from whom enquires were made. A feeling of growing nervousness on the part of businessmen was observable and some of them expressed the belief that the ruin of the producers of wheat in the United Provinces was inevitable. The problem at present is, however, not merely that the exports from the United Provinces have ceased but that the province has begun to import wheat from several neighbouring provinces. The following table gives the imports of wheat and wheat flour in the United Provinces during the last three years. It will be seen that while more than 50 per cent. of the increase in the total imports of wheat and wheat flour in the United Provinces during the last two years was contributed by the Punjab, more than 25 per cent. was shared by the Central Provinces and Berar, while the imports from Central India also showed an appreciable increase :

and future prospects.

TABLE XXVI—*Imports of wheat and wheat flour in the United Provinces from different sources (in maunds)*

—	Imports into the United Provinces from—				Total imports into the United Provinces
	The Punjab	Central Provinces and Berar	Central India	Other sources	
1933–34 ..	1,400,566	288,509	41,244	110,070	1,840,389
1934–35 ..	2,510,916	200,615	105,232	114,204	2,930,967
1935–36 ..	2,959,593	988,733	356,817	136,574	4,441,717
Increase in 1935–36 over 1933–34.	1,559,027	700,224	315,573	26,504	2,601,328

CHAPTER V

THE DETERMINATION OF THE BASIC PRICE

77. The problem of the determination of price has to be considered in relation to a well-defined market. It has been seen that foreign prices of cereals have at present little influence on those in India and the United Provinces(*a*). The prices of cereals in the *mandis* of the United Provinces are, however, highly correlated with those in other *mandis* in India (*b*). The competitive market for the United Provinces' wheat (and other cereals) is thus at present limited to and coincides with the Indian market. It is, therefore, with reference to this latter that the problem of the determination of the price in the principal *mandis* of the United Provinces has to be considered.

Price and the market—

the market for United Provinces' cereals is co-extensive with the Indian market.

78. The conception of price implies a reference not only to the extent of the market but also to the length of the period with reference to which price is to be considered. For, although the factors which determine the price are fundamentally the same in all cases, their relative importance tends to vary according to the length of the period under consideration. For example, the influences affecting the fixation of the " spot " price—that is, the price in the very short period, say, on a particular day—are not exactly the same as those which determine the " speculative " or the " market " price—that is, the price in the " short " or the " moderately long " period, say, a month or a year. Again, a slightly different set of influences determine the " prospective " or, as it is commonly called, the " normal " price—that is, the price in the " very long " period, say, five or ten years. This latter price shows the secular trend of the changes in the "market" prices. The " normal " price is, however, a theoretical price, a mere imaginary conception; for it implies that conditions remain " equal " in the " very long " period. As it is, conditions change. The " market " price is, however, the real price.

Price and the period o time—

the " spot " price,

the " market " price,

and the " normal " price.

79. For practical purposes, however, prices may broadly be classified as (1) prices on a particular day and (2) prices in the long period. On any particular day the supply is more or less fixed, being limited to the existing stocks, so that

Day-to-day prices and the prices in the long period—

(*a*) *Vide* paragraph 32. (*b*) *Vide* paragraph 49.

the importance of demand in the short period, and of supply in the long period.

demand tends to play comparatively an important part in the fixation of the price. In the long period, however, the supply of a commodity can be increased or decreased and adjusted to the estimated demand. Consequently the influence of demand in the determination of the price in the long period tends to be discounted and supply generally plays a more important part.

Price and the nature of the commodity—perishable commodities and the importance of demand; non-perishable commodities and the importance of supply.

80. The third item which has to be taken into account when the problem of price-fixation is under consideration is the nature of the commodity in question. Perishable commodities like vegetables and fish have a short-period market and on account of the eagerness on the part of the sellers to sell their goods on the day they are brought to the *mandi*, the importance of demand in fixing the price becomes much greater. Non-perishable commodities like cereals can, however, be stocked and their sale postponed to a later date if a fair price is not obtainable on the day they are brought to the *mandi*. The market for non-perishable commodities is therefore not limited to the short period and the importance of supply in the determination of their prices is ordinarily greater than that of demand.

Demand for cereals—its meanings ordinarily, in the long period and in the short period.

81. The two fundamental factors which determine the price of cereals, as of every other commodity, are "demand" and "supply". These, however, are very broad terms and their exact meaning varies according to the circumstances and the period of time under consideration. "Demand" in the case of cereals consists of (1) demand for consumption, local as well as from outside *mandis* and (2) demand from speculators, local and outside, for purposes of "cornering" or stocking in the hope of a better price in future. Considering the long period, demand in a *mandi* would tend to coincide with the present and prospective demand of consumers. In the short period, however, demand is affected largely by speculation.

Demand for cereals in India—the quantity available for consumption as an approximation to demand.

82. It has been pointed out above that the competitive market for cereals produced in the United Provinces coincides with the Indian market. The long period demand for cereals has therefore to be considered with reference to the consumption of cereals in India. Figures are not available to show directly the quantity of wheat and of cereals as a whole required annually for purposes of consumption in India. The quantity available for consumption can, however, be calculated by adding to the yield in India the quantity imported and subtracting therefrom the quantity exported. Changes in stocks also affect the quantity available for consumption. Since stocks of cereals are considerable in the

Indian market, variations in their magnitude may materially alter the total quantity available for consumption at any one time. There are, however, no data available to indicate the nature of variations in stocks. If, however, stocks are assumed to be more or less constant, the " quantity available for consumption " will approximate to the " demand " for cereals.

Table XXVII below gives the quantity of wheat and other cereals available for consumption in India during the last ten years. The figures have been arrived at by subtracting the net exports in a given year from the quantity produced in the preceding year.

TABLE XXVII—*Quantity of Cereals available for Consumption (in thousand tons) in India* (1926—36)

Year	Wheat	Cereals other than wheat	Cereals total
1926-27	8,501	44,953	53,454
1927-28	8,682	44,742	53,424
1928-29	8,184	43,561	51,745
1929-30	8,885	46,454	55,339
1930-31	10,457	45,878	56,335
1931-32	9,354	47,547	56,901
1932-33	9,034	48,458	57,492
1933-34	9,458	46,467	55,925
1934-35	9,354	46,063	55,417
1935-36	9,714	46,386	56,100

83. Cereals as a whole are a prime " necessity " for life so that demand for them tends to be comparatively inelastic. Material variations in the consumption of cereals can take place only as a result of corresponding variations in population or in the consumption per head due to a significant change in the average physique of the people or to some development or invention in the science of dietetics. Some variation in the consumption of cereals is also possible as a result of a material change in the standard of living of people or in the relative prices of cereals and their substitutes. In India, the standard of living of the vast majority of people is very low. There is, therefore, scope for an increase in the demand for cereals if the economic condition of the people appreciably

Variations in demand for cereals—in general

and in India.

improves. There is, however, no immediate prospect of any material increase in the demand for cereals on this account. At the same time it is often contended that the consumption of cereals in India has, on account of the abject poverty of the masses, reached so very near the necessary minimum that a rise in the prices of cereals cannot lead to a material fall in their demand.

Variations in consumption of cereals—by the Indian cultivators,

84. The Indian cultivator sells only a part of the cereals he produces to meet his cash liabilities and consumes the rest. A rise in the price of cereals, other things remaining equal, would enable him to meet his cash liabilities with a smaller quantity of cereals and leave a correspondingly larger amount for his consumption. A rise in the price of cereals may, therefore, be accompanied not by a decrease but by an increase in their consumption. For similar reasons a fall in the price of cereals may lead not to a rise but to a fall in their consumption. About 40 per cent. of the population in India are *actual* cultivators. In addition to these the consumption of village artisans and labourers who are paid in kind for their services will be affected by variations in prices in the same way as that of cultivators. The ordinary law of demand affects only the consumption of those classes of people who depend for their requirements of cereals on the market. These comprise hardly half of the total population. In actual practice, however, a rise or a fall in the prices of cereals is accompanied by similar changes in the prices of other commodities which the cultivator buys. These latter changes may not, however, be proportionate to the changes in the prices of cereals and would, to that extent, alter the purchasing power of the cultivator and his ability to consume cereals. Data are not available to show what proportion of the cereals produced by the Indian cultivator is sold by him to meet his cash requirements. It cannot therefore be definitely stated whether the net effect of a rise (or a fall) in the price of cereals would be an increase or a decrease in the cultivator's consumption of cereals in India. It will thus be seen that the effect of a change in the prices of cereals in India is made up of several items of divergent tendencies so that it is difficult to say whether the net effect of a rise (or a fall) in price would come to an increase or a decrease in the demand for cereals.

by village artisans and labourers

and by the rest of the population ;

variations in price and in demand.

Variations in consumption of individual cereals.

85. The consumption of individual cereals, on the contrary, may increase or decrease considerably on account of a change in the general level of prices or a disturbance in the relative prices of different cereals. The demand for wheat may also undergo a change merely because of a change in the

standard of living. The demand for wheat is therefore likely to vary more than the demand for other cereals together. This is borne out by the coefficients of variation worked out from Table XXVII above, which show that the figures of wheat have been varying more than twice those of other cereals, the coefficients being 6·781 per cent. and 2·883 per cent. respectively.

Price and the various factors affecting it.

86. The effect of various factors on the price of wheat may be measured by correlating them with the price. In the following paragraphs are given coefficients of correlation between the average annual prices of wheat in India (*a*) during the last ten years, from 1926 to 1935, and the various factors affecting them. It may be emphasized that the data being not sufficient, the conclusions derived from the coefficients have to be relied upon with reserve. Table XXVIII below gives the coefficients of correlation between the price and the "quantity of wheat available for consumption in India."(*b*)

Table XXVIII—*Coefficients of correlation between price and demand for wheat in India*

Series correlated	Coefficient of correlation	Probable error
Price in the year (*n*) and—		
demand in the year (*n*)	—0·556	±0·147
demand in the year (*n*—1)	—0·816	±0·071
demand in the year (*n*—2)	—0·566	±0·145
demand in the year (*n*—3)	—0·141	±0·198
demand in the year (*n*+1)	+0·206	±0·204

Correlation between price and demand.

87. It is clear from the above table that there is a fair degree of correlation between price and quantity of wheat available in the same year. An important point brought out by the above table is the comparatively greater correlation between price in one year and the quantity available in the preceding year. This is significant when it is combined with the fact that the correlation is negative. For if variations in demand at all affect the price directly, the correlation between demand and price would be positive, an increase in

(*a*) Prices of "Doodiah or club no. 2 (Calcutta)"—from Index Numbers of Indian Prices 1861—1931.

(*b*) Vide Table XXVII above.

demand leading to a rise and a decrease to a fall in the price. The negative correlation indicates that either the "quantity available for consumption" represents the supply side or, if it represents the demand, variations in demand affect the price *indirectly* through variations in area. A high demand tends to lead to an increase in the area and yield and thereby to lower the price. Similarly a low demand tends to raise the price by leading to a contraction of area and yield. In each case, the correlation between demand and price would be negative. This proposition is further supported by the coefficients of correlation, given in Table XXIX below, between area in one year and demand in the preceding years.

Correlation between demand and area.

TABLE XXIX—*Coefficients of correlation between area and demand for wheat in India*

Series correlated	Coefficient of correlation	Probable error
Area in the year (n) and—		
demand in the year (n)	+0·404	±0·178
demand in the year (n—1)	+0·549	±0·139
demand in the year (n—2)	+0·455	±0·169

Demand affects price through area.

88. It will be noticed that there is a striking correspondence between the coefficients of correlation between price and demand (Table XXXVIII) and between area and demand given above. While moderate correlation exists between area and demand and between price and demand in the same year, an increase is visible in the coefficient of correlation between area or price in one year and demand in the preceding year. It seems that although variations in demand in any one year continue to have their repercussions on the price during the next two succeeding years, their full effect on the price comes into play in the next succeeding year. This is what may be reasonably expected. Adjustments in area corresponding to variations in demand can be made only when the exact variations are known and if the latter are not correctly foreseen, their effect can come into play only in the next succeeding year. It is not improbable that by the time the year's crop is sown these variations are not fully known to the growers, though perhaps they get some idea of their direction, so that they are only partly

reflected in the year's area. During the course of the next year, however, the variations in demand are fully known and necessary adjustments in the area are therefore made in that year. Hence variations in demand are more clearly reflected in the price in the next succeeding year, through their effect on the area.

Correlation between price and area

89. Table XXX below gives the coefficients of correlation between price and area of wheat in India. It will be seen that area tends to have a slightly greater effect on the price in the next succeeding year than in the same year. This seems to be due to the fact that figures of area are known towards the end of the calendar year so that prices during a calendar year, and specially during its earlier part, are influenced by area in the preceding year.

TABLE XXX—*Coefficients of correlation between price and area under wheat in India*

Series correlated	Coefficient of correlation	Probable error
Price in the year (n) and —		
area in the year (n)	—0·755	±0·082
area in the year (n—1)	—0·808	±0·064
area in the year (n—2)	—0·560	±0·136

amounts to correlation between price and prospective yield.

90. The effect of area on price is, however, indirect since variations in area lead to changes in price only in so far as they effect, or are likely to affect, the yield. In other words, variations in area afford a ground for speculation as to the quantity of the coming crop, so that a correlation between area and price, in fact, amounts to a correlation between the prospective yield and price. In Table XXXI below are given coefficients of correlation between price and yield of wheat in India. It will be noticed that the correlation of price with the yield in the preceding year is slightly greater than with that in the same year, and that while there is mild correlation between price and yield in the same as well as the next preceding year, there is little correlation between price in one year and yield two years back. It seems that the effect of variations in yield on price lasts only the next succeeding year, unlike that of demand which appears to last the next two yars.(*a*)

Correlation between price and yield.

(*a*) *cf.* paragraph 88.

TABLE XXXI—*Coefficients of correlation between price and yield of wheat in India*

Series correlated	Coefficient of correlation	Probable error
Price in the year (*n*) and—		
yield in the year (*n*)	—0·493	±0·151
yield in the year (*n*—1)	—0·680	±0·105
yield in the year (*n*—2)	—0·088	±0 202

The influence of different factors on price varies at different times in the year.

91. Though demand, area and yield all affect the price, their importance at any one time, as of all factors affecting the price in a high or low degree, varies according to the time of the year. Thus, speculation as to the coming crop plays a very important part in the determination of price from sowing time to the harvesting period. But after the produce has been brought to the *mandis*, speculation with regard to demand and stocks plays a predominant part. Wheat, for example, is sown in the United Provinces from October to December and harvested from March to May. With the beginning of the calendar year, if not earlier, speculation as to the next wheat crop—based on the area sown, the manner in which and the extent to which weather conditions at the time of sowing are expected to affect the crop, and such other available information—begins to play an increasingly important part in the fluctuations in the price. As the year advances, specially during the months of February and March, speculation with regard to the outturn of the coming crop becomes the decisive factor in determining the price. By April wheat ordinarily begins to be brought to the *mandis* for sale and during the months of April, May and June the price of wheat fluctuates very frequently. The *mandis* are busy taking stock of the situation; the produce which was so far a subject of speculation, is actually received and stocked or exported. The beginning of the rains puts a stop to the flow of wheat from the villages to the *mandis* and for about six months, from July down to practically the end of the calendar year, the *mandis* are continually reviewing the position and studying the existing stocks—local and external—in relation to the existing as well as the prospective demand.

Correlation between price and foreign trade —imports

92. The imports of wheat (including wheat flour) into India were correlated with the price of wheat in India. The

coefficient of correlation between price and imports during the same year came to +0·436 with a probable error of ± 0·162. Apart from the fact that the correlation is not high the coefficient is positive, which indicates that it is the price which affects the imports, high prices in India attracting and low prices discouraging, imports. If imports had affected the price, the coefficient of correlation would have been negative, a change in the imports in one direction leading to a variation in the price, in the opposite direction. The price of wheat was further correlated with the exports of wheat (including wheat flour) from India. The coefficients are given in the following table. It will be observed from these coefficients that not only exports in the same year but also past as well as prospective exports have a direct effect on price. It will be remembered that exports represent "demand from abroad". and exports.

TABLE XXXII—*Coefficients of correlation between price and exports of wheat from India*

Series correlated	Coefficient of correlation	Probable error
Price in the year (n) and—		
exports in the year (n)	+0·746	± 0·085
exports in the year (n—1)	+0·655	± 0·112
exports in the year (n—2)	+0·767	± 0·078
exports in the year (n+1)	+0·834	+0·055

93. The part played by various factors affecting the price of wheat in India may be summarized as follows : Summary of factors affecting the basic price :

(1) Variations in (Indian) demand during the course of any one year appreciably affect the price in the same year as well as in the two succeeding years, the effect being greatest on the price in the next succeeding year. (i) demand;

(2) The effect of (Indian) demand on price is exercised not directly but indirectly, through area. (ii) demand through area ;

(3) Exports (i.e. demand from abroad) affect the price not only the same year but also in the succeeding years : prospects of exports also influence the price. (iii) foreign demand ;

(iv) area ; (4) Area in any year has a considerable effect on the price in the same year as well as in the two succeeding years.

(v) yield ; (5) The effect of yield on the price in the same year is significant, and is slightly greater on the price in the next succeeding year; prospective supply also plays an important part in determining the price.

(vi) foreign competition (unimportant) : (6) There is little correlation between Indian and foreign prices of wheat at present. In actual practice, however, wheat speculators in India still show a keen interest for commercial news from foreign markets, perhaps like the people protected by a dam who, however, still keep a watchful eye on the level of the struggling waters on the other side.

(vii) Indian influences outside the United Provinces. (7) There is high correlation between prices of wheat in the United Provinces and those in Indian *mandis* outside the United Provinces. In other words, prices in the Indian market have a considerable influence on those in the United Provinces.

Supply—a speculative factor ; 94. Supply, it has been seen, plays an important part in the determination of the "normal" price of wheat in India. Long period supply in a principal *mandi* includes (i) existing stocks and (ii) prospects of the coming crop—local as well as in outside *mandis* and regions with which possibilities

(i) stocks ; of profitable trade exist. Accurate information regarding stocks is not available in India even to the big speculators. Moreover, in the business world, as perhaps in many spheres, actual facts are of less importance than the information of people about them and their interpretation of the available information. Conditions may actually exist which would normally lead to a rise or fall in the existing price but if they are not known, no variation in the price would actually take place. On the other hand, even the most trifling phenomenon which has apparently no relation to price may lead to a variation in price if businessmen so interpret it. Thus, curious as it sounds, the appearance of a single cloud in the sky at a particular time in the year or the news of imminent war in Europe would generally lead to a change in the price in India, although the cloud may disappear within an hour and the possibility of foreign trade in the near future may be remote. It is, therefore, not the actual stocks

(ii) and the coming crops; but the idea of speculators about their volume that really matters. As to the prospects of the coming crop, it is for all practical purposes, entirely a matter of speculation. All news and information, however unimportant, which tend to throw some light on the prospects of the crop are sought for with the

greatest zeal. Forecasts of the coming crop are awaited with feverish eagerness. The correlation between forecasts and variations in price does not admit of quantitative measurement, but the important part played by forecasts in affecting the direction and magnitude of variations in price is very well known to those who have a knowledge of the working of speculative *mandis*. The "visible" supply and demand are thus no longer the only or even the main factors determining the price; a very powerful factor now-a-days is speculation, specially on the prospects of the coming crop. Curiously enough, the prices of all cereals at present are fixed with regard to a relatively unknown future and the known past and present affect them only in so far as they are indications of the future. "Price", therefore, is determined by supply and demand not as actually existing but as understood by speculators, that is, by the inter-action of "speculative supply" and "speculative demand". speculation and price.

95. Truth is what man *believes* to be true; it is specially so in the business world. But just as the nearer the *belief* is to the Absolute Truth, the better is the Ideal attained, even so the more true is speculation to the actually existing conditions, the less frequent and wide would the fluctuations in the price be; in other words, the more would the "market" prices tend to be stable and uniform and to approach the normal price. For, the price is fixed in view of the conditions of supply and demand as speculated, and later on, when speculation is found to be not exactly correct, either on account of faulty speculation due to lack of experience or because of unseen events having since taken place, e.g., unfavourable change in weather, a change in the price is made to bring it more in conformity with actually existing conditions as then understood. If, therefore, speculation be exactly correct, no occasion would normally arise to alter the price; and furthermore, the more true is speculation to the actual conditions, the less wide and frequent need be the variations in the price later on. As it is, although, on account of the practical impossibility of an exactly accurate speculation, fluctuations in prices are a little more frequent than perhaps they would be if there were no speculation, they are always less wide at a time. Speculation thus tends to bring about uniformity in prices and to smoothen out the price-fluctuations. It gives a very great incentive to businessmen to keep themselves fully informed of the latest changes in the price. Indeed the competitive zeal on the part of speculators to keep themselves informed of the last-minute changes in the price sometimes leads to almost dramatic scenes (a). Speculation thus effectively discourages the phenomenon of price-lag and tends The importance of scientific speculation; and its usefulness,

to minimize the difference not only between prices at different places but also between prices at different times(b). It is a sort of business-specialisation requiring high technique, and efficiency in speculation should directly measure the progress of business skill.

the dangers of haphazard speculation.

96. While the usefulness of scientific speculation cannot be exaggerated, the dangers of haphazard speculation cannot be over-emphasised. The former is based on an intensive study of prices, market conditions, weather conditions, periodicity, extrapolation, etc., whereas the latter is guided by astrologers, palmists, fortune-tellers, dreams, omens, *patras* (calendars of the Hindu year), *faqirs* (sages), blind following of the bigger speculators, rumours (generally ill-founded) and a host of other irrelevant factors. It was found on enquiry in the various *mandis* of the United Provinces that these happy-go-lucky speculators generally outnumber the scientific speculators, but that happily their share of the volume of speculation is only a small fraction of the total. In fact, such speculators regard speculation more as a form of gambling than as a scientific statistical business requiring a high degree of business skill and experience. As it is, apart from their personal loss, they put into action forces which generally go to pull the price in a direction other than that warranted by actual conditions. Consequently, if and when the amount of business transacted by such speculators is appreciable, a "collapse" follows, leading to a sort of earthquake in the business world and not infrequently generating a series of wide fluctuations and a wave of unsteadiness in the prices. Such business-quakes tend to undo the useful work done by systematic organized speculation.

The need of statistics and their timely publication.

97. The great desirability of scientific speculation and the unwholesome effect produced by haphazard speculation on the condition of trade and market point directly to the need of adequate reliable statistics and their timely publication.

(a) I was interviewing a leading businessman and speculator in wheat at his residence in Hapur. It was the 26th of March, 1935. The weather was cloudy and a little breeze was blowing. All of a sudden the breeze grew into a strong wind accompanied by a sharp shower of rain, and the weather became more cloudy and dull. The witness asked for "two minutes" leave and after briefly consulting his *munim* (clerk-accountant) who was close by and who agreed that the strong wind accompanied by rain would undoubtedly injure the standing crop, immediately, almost impatiently, rang up Amritsar and Karachi. After personal greetings information about weather and market conditions was exchanged and certain forward contracts entered into. Hardly had the receiver been put down when the telephone bell rang and witness was informed from his shop in the *mandi* that the price of wheat had gone up from Rs.3-6-9 per maund to Rs.3-7-3 per maund.

(b) How speculation tends to reduce the difference between prices at different times to the minimum necessary is explained in detail in paragraph. 177. *post*.

Speculation based on reliable statistics must needs be more accurate than that based on imagination or guess-work. If relevant information could be collected from the various *mandis* in the province through the local chambers of commerce or any other *mandi* organization and co-ordinated and published by a provincial organisation like the Bureau of Statistics, along with other useful data and information, it would greatly add to the efficiency and organization of speculation in the *mandis* of the United Provinces. Such publication would tend to bring out factors like stocks from the realm of speculation based on guess-work into one of comparative certainty, and would place speculation on a more scientific basis not only directly by supplying reliable information but also indirectly by discouraging haphazard speculation.

98. The various factors affecting the basic price have been dealt with. The ordinary consumer, however, is concerned directly only with retail prices. Table XXXIII(A) below gives retail prices of cereals in India, and Table XXXIII(B) in the United Provinces, during the last ten years. Retail prices.

TABLE XXXIII(A)—*Retail Prices of Cereals in India* (*a*)
(1926–35)

	Wheat	Rice	Gram	Barley	Jowar	Bajra
	Seers per rupee					
1926 ..	6·18	5·52	8·7	9·79	8·47	7·22
1927 ..	6·84	5·38	8·49	10·45	8·54	8·16
1928 ..	6·91	5·54	8·06	9·95	9·87	8·70
1929 ..	6·95	5·89	7·00	9·52	8·52	7·17
1930 ..	10·30	7·26	10·27	17·48	12·10	11·60
Average, 1926—30.	*7·50*	*5·92*	*8·50*	*11·44*	*9·50*	*8·37*
1931 ..	14·50	10·46	16·10	24·22	18·74	17·74
1932 ..	12·15	11·32	16·49	19·30	16·88	15·73
1933 ..	12·04	13·02	16·04	18·77	17 21	14·76
1934 ..	13·50	13·06	17·20	21·34	16·94	15·34
1935 ..	12·89	11·42	16·56	20·41	15·83	14·60
Average, 1931—35.	*13·02*	*11·86*	*16·48*	*20·81*	*17·12*	*15.63*
Average, 1926—35.	10·26	8·87	12·49	16·12	13·31	12·00

(*a*) From Index Numbers of Indian Prices, 1861—1931. Prices of maize are not available.

TABLE XXXIII(B)—*Retail Prices of Cereals in the United Provinces (a)* (1926–35)

Years	Wheat	Rice	Gram	Maize	Barley	Juar	Bajra
	Seers per rupee						
1926	6·81	4·75	8·75	8·69	9·50	8·34	7·63
1927	7·69	5·56	9·38	10·43	10·68	10.32	9·38
1928	7·25	5·56	8·37	12·52	10·31	10·94	9·81
1929	7·29	5·74	7·19	9·52	9·25	2·21	7·25
1930	11·17	6·94	10·75	10·06	16·69	14·44	12·19
Average, 1926—30 ..	*8·04*	*5·71*	*8·89*	*11·42*	*11·28*	*10·15*	*9·25*
1931	15·47	9·68	17·41	24·86	24·00	26·00	22·04
1932	11·56	9·57	16·49	20·40	18·48	20·79	19·31
1933	12·89	10·26	16·45	20·47	18·87	19·73	17·99
1934	14·83	10·88	17·81	20·49	21·62	20·35	19·34
1935	13·34	9·93	17·20	18·40	19·88	17·78	17·06
Average, 1931—35 ..	*13·62*	*10·07*	*17·07*	*20·94*	*20·58*	*20·93*	*19·15*
Average, 1926—35 ..	10·83	7·89	12·98	16·18	15·93	15·69	14·20

The relation between retail and wholesale prices:

99. The coefficient of correlation between retail and wholesale prices of wheat during the last ten years comes to +0·95 for India and +0·94 for the United Provinces. This is what may be expected, for variations in retail prices are determined almost entirely by variations in wholesale prices. There is, however, one important point to remember in connexion with the relation between wholesale and retail prices: variations in retail prices lag behind those in wholesale prices in respect of time as well as extent. This lag in retail prices is not so clearly visible when annual prices are considered as when weekly or daily prices are taken into account (a).

the lag in retail prices.

Retail prices and the inter-action of demand and supply–

100. Although variations in retail prices appear to be mostly determined by changes in wholesale prices, they are as much the result of the interaction of the forces of demand and supply as the variations in wholesale prices in the secondary *mandis* or the villages(b). The consumers' demand is directly conveyed

(a) From "Agricultural Prices in the United Provinces" by Dr. Raj Bahadur Gupta.
(b) *Cf.* paragraph 118, *post.*
(c) *Cf.* paragraph 25.

to retailers, who buy their requirements from wholesale dealers. These latter, in their turn, look forward to the principal *mandi* of the region to meet their demand. Variations in demand from different areas are thus conveyed to the principal *mandi* through local retail and wholesale dealers. The principal *mandi* correlates them with the supply and adjusts the price accordingly. These adjustments in price pass down to the consumers in the same way as their demand came up to the principal *mandi*, viz., through the wholesale and retail dealers. Thus supposing that at any particular time the consumption of wheat in a locality goes up materially, the retailers would, for the time being, raise the price in view of the increased demand. The consumers, faced with a higher price, will have to tone down their demand so that an equilibrium between local demand and supply is established. This equilibrium will, however, tend to be temporary and unstable, for it is the result of a rise in price which completely ignores conditions of demand and supply outside the locality. The retailers, while raising their price, would, at the same time, make correspondingly greater demands on the wholesalers, who, in their turn, will buy larger quantities of wheat from the principal *mandi*. The principal *mandi*, if it finds that the demand in the entire region tends to exceed the supply, will raise the price to the extent necessary and sufficient to balance the demand with the supply in the entire region. This will result in a corresponding increase in the price at which wholesalers sell to the retailers and further on, in the retail price. The extent to which the principal *mandi* raises the price is just what is warranted by the conditions of demand and supply in the entire market, and if the retailers, in the first instance, raised their price by more (or less) than what the increase in the price in the principal *mandi* justifies, the retail prices would have to be adjusted accordingly and a permanent and stable equilibrium would be brought about. Thus, although the retailers in any particular locality may raise or lower the price immediately after an increase or decrease in the local demand, the *proper* variation in the local price would come into effect only through the principal *mandi*, that is, after a proper variation in the wholesale price. The reason for this is that the significance of variations in local demand, as of other economic changes, cannot be effectively judged at their source; they must be reported to the principal *mandi* which alone is competent to analyse and assess their importance in relation to similar (or divergent) changes in other localities.

the importance of principal *mandis*.

CHAPTER VI

THE PRICE IN THE SECONDARY MANDIS

The importance of secondary *mandis*.

101. It has been pointed out(*a*) that the secondary *mandis* form an important link between the villages and the principal *mandi*. Not only do they, generally, bring the "market" nearer to the producer's home, but they render a valuable service in financing the trade. On the other hand, they give the benefit of their knowledge of the condition of standing crops in the locality to the principal *mandi* of the region, just as the latter gives them the benefit, through changes in its price, of its own knowledge of conditions outside the region.

The price in the principal *mandi* provides the basis for the price in the secondary *mandis*.

102. It has also been seen(*b*) that the relation between the price in the secondary *mandis* and that in the principal *mandi* is, fundamentally, one of inter-dependence, though superficially it appears to be one of dependence. And since all secondary *mandis* are but component parts of the market represented by the principal *mandi* of the region, it follows axiomatically that a high degree of correlation must exist between the prices in the latter and the secondary *mandis*. The price in the principal *mandi* may therefore, for all practical purposes, be taken as providing the basis for the price in the secondary *mandis*.

The difference between the prices in the principal *mandi* and the secondary *mandis* varies in individual cases—its causes to be analysed.

103. The difference between the prices in the principal *mandi* and the secondary *mandis* would naturally be a function of variables which would differ according to the region considered and the geographical position of the secondary *mandis* with respect to the principal *mandi* of the region. It would therefore be well to analyse the main *causes* which generally lead to such differences. These causes are, normally, the same as those which account for the differences in the prices in the principal *mandis* and those outside the province.

The "*mandi* charges."

104. Ignoring differences in the various qualities and units of weighment or measurement of cereals, the first factor to be considered in this connexion is the "*mandi* charges". The component parts of the "*mandi* charges"—those that are most common as well as those that are exceptional—have already been analysed(*c*). The most common items of "*mandi* charges"

(*a*) Paragraph 11.
(*b*) Paragraph 25.
(*c*) Paragraphs 54—57.

are practically the same in the secondary *mandis* as in the principal *mandis*. The rate of charge, however, is in many cases a little higher, and the exceptional charges a little more common, in the secondary *mandis* than in the principal *mandis*. Below are given the average *mandi* charges in some of the secondary *mandis* for cereals in the United Provinces. The charges are borne by businessmen who import wheat through the *pukka arhatis* in the particular *mandi*.

Illustrations of *mandi* charges in secondary *mandis*.

TABLE XXXIV—Mandi *charges in some important secondary* mandis *of the United Provinces (pukki arhat)*

Item of charge	Charge per Rs.100 Rs. a. p.
(A) Baraut (Meerut)—	
Tulai	.. 1 9 0
Arhat	.. 0 12 0
Dharmada	.. 0 1 0
Total	.. 2 6 0
(B) Budaun—	
Tulai	.. 1 9 0
Arhat	.. 0 12 0
Goshala	.. 0 2 3
Shagirdi (Miscellaneous) ..	.. 0 2 6
Total	.. 2 9 9
(C) Khurja (Bulandshahr)—	
Tulai	.. 1 9 0
Arhat	.. 0 10 0
Dharmada	.. 0 1 0
Goshala	.. 0 0 9
Total	.. 2 4 9
(D) Hathras (Aligarh)—	
Tulai(a)	.. 1 9 0
Arhat	.. 0 8 0
Goshala	.. 0 1 0
Ramlila	.. 0 0 3
Shagirdi(a)	.. 0 4 0
Total	.. 2 6 3

(a) Sometimes a charge of Re.1-13 per Rs.100 is made under *tulai* and no *shagirdi* is charged.

	Charge per Rs.100.
	Rs. a. p.
(E) Chirgaon (Jhansi)—	
Town Area tax	0 12 6
Arhat	0 12 0
Dharmada	0 1 0
Total ..	1 9 6

The *arhat*;

105. The most common *arhat* rate in the secondary *mandis* of the United Provinces is 12 annas per Rs.100. Thus this is the usual rate of *arhat* in the *mandis* of Baraut, Shamli, Deoband, Dhampur, Amroha, Sambhal, Pilibhit, Budaun, Etah, Bulandshahr, Sikandrabad, Dankaur, Khurja, Deoria and Chirgaon. The rate, however, is, in practice, generally reduced to 10 annas per Rs.100 and in some cases to 8 annas per Rs.100, specially when the buyer pays the price in cash or when his credit is sound and unquestionable or when he offers a large amount of regular custom. The rate of 10 annas per Rs.100 appears to be the best "average" of the *arhat* charges in the secondary *mandis* of the United Provinces.

the *tulai*;

106. The most common rate of *tulai* is practically the same in the secondary *mandis* as in the principal *mandis*, namely, Re.1-9 per Rs.100. Thus this is the prevailing rate in the *mandis* of Baraut, Pilibhit, Budaun, Etah, Sikandrabad, Dankaur, Khurja, Amroha, Sambhal and Khatauli. The variation in the "*tulai*" charges is less marked than that in the *arhat* charges, and deviations from the average are comparatively few.

the *dharmada*;

107. The most variable amongst the common *mandi* charges in the secondary *mandis* is perhaps the charge made for purposes of charity under different names like *dharmada*, *goshala*, *ramlila* and *mandir* (temple). The rate varies generally from 6 pies to Re.0-2-6 per Rs.100 but the maximum rate is by no means the least common. This is due to the fact that the common *dharmada* charge of 1 anna per Rs.100 in the principal *mandis* is replaced in not a few cases by a charge in kind of 1 chhatak per maund in the secondary *mandis*, which amounts to Re.0-2-6 per Rs.100. Where this is not done, it is not uncommon to charge an additional 1 anna per Rs.100 for *goshala* besides an equal charge for *dharmada*. Due to this common increase in the charge for charity and to the fact that other additional charges like *shagirdi* tend to be more common in the secondary *mandis*, it will be reasonable to fix the average charge under this head in the secondary *mandis* at 2 annas per Rs.100.

108. The total average "*mandi* charges" in the secondary *mandis* thus amount to Rs.2-5 per Rs.100 or 2·313 per cent. against Rs.2-2 per Rs.100 or 2·125 per cent. in the principal *mandis*. In order to find out the difference that this charge would by itself tend to make between the prices in the principal and the secondary *mandis*, it has to be converted into an equivalent charge per maund. This, however, cannot be done with accuracy on the basis of the average price in the principal *mandis* of the province; for the amount of Rs.2-5 is the charge made on wheat whose value in the *secondary mandis* is Rs.100 so that the price on the basis of which the conversion is to be made is properly the average price of wheat in the secondary *mandis* of the province. **the total *mandi* charges.**

109. The cost of transportation includes not merely the railway freight and cartage to and from the station or, if the transport is effected by road, the *thela* charges (cartage) but also the terminal tax or the octroi duty and the charges for *palledari* (packing, loading and unloading). The rates of terminal tax or octroi duty vary greatly from place to place and in some places (including Hapur) they are not imposed at all. No general average can therefore be given under this head. The railway freight also varies according to the distance involved in each particular transaction and therefore does not allow of any generalisation. The charges for *palledari*, cartage, etc., that is, the expenses of putting the grain on rail, would also vary in individual cases, though to a less extent. These latter charges were computed at an average of about 6 pies or Re.0·031 per maund in the principal *mandis* of the United Provinces(*a*). The same average may reasonably be assumed in the case of the secondary *mandis*. **The cost of transportation :** **the octroi duty ;** **the railway freight ;** **and *palledari*, cartage, etc.**

110. Although no general average can be given for railway freight and octroi duties for the whole province, these charges can, of course, be determined in any particular case. For the purpose of obtaining some idea of the difference commonly existing between the prices of cereals in the secondary and the principal *mandis* of the United Provinces, it would be well to work out the average difference between the prices of wheat in a typical secondary *mandi* and the corresponding principal *mandi*. The selection of such a *mandi* near about Hapur, the representative principal *mandi* of the province, would facilitate the work of estimating this difference in the prices. On account of this consideration and of certain others(*b*), it would be proper and desirable to choose the *mandi* of Khurja for this purpose. **A particular instance :** **Khurja as a typical secondary *mandi*.**

(*a*) Paragraph 61.

(*b*) *Vide* paragraph 11.

Difference between prices of wheat at Khurja and Hapur.

111. The total *mandi* charges in Khurja amount to Rs.2-4-9 per Rs.100, which is practically the same as the average *mandi* charges computed above for the whole province, namely Rs.2-5 per Rs.100. There is no octroi duty levied on wheat imported into Hapur. The railway freight on wheat from Khurja to Hapur is 9 pies per maund (for consignments not below 400 maunds). Considering the average charges of 6 pies per maund for *palledari*, etc., the total cost of transportation of wheat from Khurja to Hapur amounts to Re.0-1-3 or Re.0·078 per maund. The total expenses borne by an *arhati* at Hapur importing wheat from Khurja thus amount, on an average, to Rs.2-4-9 or Rs.2·297 per Rs.100 *plus* Re.0-1-3 or Re.0·078 per maund. If the average price of wheat at Hapur be taken to be Rs.2·463 per maund(*a*), the following relation is obtained between the average prices of wheat at Khurja and Hapur, x representing the average wholesale price per maund of wheat at Khurja :

$$2{\cdot}46^{1} = x + 0{\cdot}078 + (2{\cdot}297 \times \frac{x}{100}) \quad .. \quad .. \quad (I)$$

The average price of wheat at Khurja ;

112. The value of x, that is, the average wholesale price of wheat at Khurja, from the above equation, comes to Rs.2·331. The normal difference between the average prices of wheat at Khurja and Hapur thus works out to Re.0·132 or Re.0-2-1 per maund. This difference will vary in the case of different pairs of secondary and principal *mandis* according to several variables including the amount of octroi duty (if any) levied on wheat imported into the principal *mandi* and the rate of railway freight on wheat exported from the secondary *mandi* to the principal *mandi*.

and the normal difference between Khurja and Hapur prices.

The average price of wheat at Khurja during 1935-36 ;

113. If the average price of wheat at Hapur during 1935-36 be considered, equation (I) above is changed to

$$2{\cdot}529^{*} = x + 0{\cdot}078 + (2{\cdot}297 \times \frac{x}{100}) \quad .. \quad .. \quad (II),$$

and its difference from Hapur price.

whence the average price of wheat at Khurja during 1935-36 comes to about Rs.2·396 per maund. The difference between the average prices of wheat at Khurja and Hapur during 1935-36 thus works out to Re.0·133 or about Re.0-2-1·5 per maund.

The means of transportion ;

114 It will not be out of place here to consider the method, actually in vogue, of transporting cereals from the secondary

(*a*) The average price during 1933—36, *vide* Table VII.
**Vide* Table XIX.

mandis to the principal *mandis*. Even where there is no complaint about the railway freights being too high, the inherent advantages of transport by road, within certain limits, make it, in not a few cases, profitable to transport grain by means of *thelas*. These *thelas* carry the load right from the godown of the exporter down to the *khatti* or the stocking place of the importer, saving thereby expenses, which in the aggregate may be considerable, of loading and unloading and cartage to and from the station indispensable in transport by rail. In fact, it was pointed out by businessmen in many *mandis* without complaining at all against the rates of railway freight, that on account of the above reasons, *thela* charges, wherever *thela* service was obtainable, almost always proved lower than the railway charges and that consequently grain was transported by road between *mandis* at considerable distances from each other. For instance, the expenses of exporting wheat by rail from Khatauli (Muzaffarnagar) to Hapur amount generally to Re.0-6-9 per bag of 2½ maunds, of which Re.0-5-3 is due to railway freight, 6 pies to cartage to Khatauli station, 9 pies to cartage at Hapur and 3 pies to "watching expenses", whereas the *thela* charges amount to only Re.0-4-6 per bag. On the other hand, an advantage of transport by rail is that whereas by *thelas* the grain reaches Hapur on the third day so that payment of money is delayed, by exporting through rail money can be obtained much sooner, since as soon as the grain has been booked, a man can go over to Hapur and get the money on production and submission of the railway receipt. Those who want early payment therefore still take recourse to transport by rail. Where, however, the necessity of early payment is not urgent, road transport is preferred. Again, although the railway freight from Meerut to Hapur is lower than the *thela* charges, yet, on account of the other expenses incidental to transport by rail, a greater portion of the grain exported from Meerut to Hapur is transported by means of *thelas*; and similarly, most of the grain imported into Agra from Hathras goes by road.

the inherent advantages of road transport;

and the advantages of rail transport;

Rail transport generally cheaper.

115. Where, therefore, export of cereals from a secondary *mandi* to the principal *mandi* takes place by road, the expenses of transport by road, and not the railway freight, should be considered under the "cost of transportation" as contributing to the normal difference between the average prices in the two *mandis*. And since, in such cases, the expenses of transport by road tend to be less than those of transport by rail, the normal difference between the two prices, arrived at on the basis of the rate of railway freight, must be diminished to the same extent.

Actual cost of transportation to be considered in any particular case.

The cost of road transport; the charges generally determined by railway freight;

116. The rates of charge for transport by road are almost invariably determined by the rates of freight for transport by rail. Moreover, they vary according to the demand, tending to go higher during the months following the harvest. Thus the charge made for transport of wheat by *thelas*, carrying between 60 and 70 maunds of wheat from Meerut to Hapur, a distance of 20 miles, is ordinarily 1 anna per maund, but may rise up to Re.0-1-6 per maund in times of intensive demand from Hapur. While therefore no general average can be worked out with accuracy, it appears that the cost of transport of cereals on inter-*mandi pukka* roads ordinarily amounts to less than 1 pie per maund per mile. Thus *thela* charges from Khurja to Hapur, a distance of about 30 miles, are 2 annas per maund.

the average rate of charges for transport by road.

The actual difference between prices in the principal and the secondary *mandis* is different from the normal difference due to—

(i) temporary fluctuations in prices in secondary *mandis*;

117. The extent to which the normal difference between the average prices of cereals in a secondary *mandi* and the principal *mandi* may be expected to approach the actual difference on any particular day must be determined in the light of several factors leading to deviations from this normal difference. As has been pointed out before(*a*), the actual price in a secondary *mandi* is subject to fluctuations due to temporary abnormal supplies or demand. Thus if in a small *mandi*, for example Etah, the number of wheat carts that come to it on any particular day exceeds the normal or the expected number, the price of wheat on that day would tend to go down. This fall in price would, however, be as short-lived as the excessive supply and would tend to resume its normal or its old level the next day if the supply on the next day is about the normal. Fluctuations in prices in the secondary *mandis* must, therefore, be regarded as of two types. Fluctuations due to abnormal or subnormal supply or demand in a secondary *mandi* are temporary and short-lived; they are a peculiar feature of the secondary *mandis*, and the smaller or the less organised a *mandi* is, the more marked do they generally appear. On the other hand, fluctuations corresponding to changes in the price in the principal *mandi* tend to be permanent and are the only real fluctuations.

fluctuations of two types—(*a*) temporary,

and (*b*) permanent.

(ii) price-lag in secondary *mandis*;

118. Another factor that tends to lead to deviations from the normal difference between the prices in a secondary *mandi* and the principal *mandi* is "price-lag". As has been explained before(*b*), changes in the prices in the secondary *mandis* tend to lag behind those in the principal *mandis* both with respect to time and the extent of the change,

(*a*) *Vide* paragraph 25. (*b*) *Vide* paragraph 22.

its causes—imperfect means of communication;

though the lag in the latter is less marked due to changing conditions. The reason for such price-lag is primarily imperfect means of communication. This is why this phenomenon is practically absent in the case of the principal *mandis* like Hapur, which are efficiently connected with the big *mandis* outside the province, and appears, as will be seen later, with much greater force in the villages, where means of communication are far from efficient. Thus when the price in the principal *mandi* rises, prices in the secondary *mandis* also tend to rise but the rise comes into effect not simultaneously with that in the principal *mandi*; and if in the meantime the price in the principal *mandi* changes its course and begins to fall, the rise in the prices in the secondary *mandis* is checked before it has completed its upward course and the prices reverse their tendency. An interesting illustration of such price-lag was obtained by working out the coefficient of correlation between weekly prices of wheat at Hapur and Khurja during the three years ending March, 1935. The coefficient of correlation came to +0·881 when prices during the same week were placed against each other, but it rose to +0·912 when Hapur prices were moved back by one week so that the price at Hapur during a particular week was placed against the price at Khurja during the next succeeding week.

lag in Khurja prices;

(iii) imperfect competition in secondary *mandis*;

119. Another factor must be mentioned in this connexion. Normal difference between the prices in a secondary *mandi* and the principal *mandi* implies the existence of a perfect market, of perfect competition amongst buyers and sellers and of perfect knowledge of market conditions on the part of both the buyer and the seller. As it is, when the cultivator himself brings his cereals to sell in the secondary *mandi*, he places more or less a complete reliance on his *arhati*. In fact it would not be an exaggeration to say that the guardian of the cultivator in the *mandi* is, in most cases, not so much his own skill or smartness as the competition amongst the *arhatis* themselves to attract clients. And where by tradition or for some other reason, a particular cultivator is monopolised by an *arhati*, the cultivator sometimes loses the advantage which free competition amongst the *arhatis* should ordinarily secure him. It should not therefore be surprising to find that in practice, the price to the cultivator selling in a secondary *mandi* may be a little lower than the normal difference between the prices in that *mandi* and the principal *mandi* warrants.

the cultivator's lack of marketing skill.

Cereals other than wheat

120. A word may here be added about cereals other than wheat. *Juar*, *bajra*, *bijhri* (a mixture of wheat and gram,

or gram and barley) and such other cereals, when they come from the village to the secondary *mandi*, are generally sold only for local consumption. Naturally, therefore, their prices are influenced by outside prices to a much less extent than those of wheat. Even amongst such cereals, however, rice and, to a smaller extent, gram and barley are more susceptible to outside influences than others.

are less susceptible to outside influences.

CHAPTER VII

THE PRICE IN THE VILLAGE: THE WEAKNESS OF THE CULTIVATOR AS SELLER

121. The price in the village is based on the price in the nearest *mandi*(*a*). It has been seen in the preceding chapter that the price in the secondary *mandis* varies with the price in the principal *mandi*, differing from it by a constant determined by local factors including the *mandi* charges and the cost of transportation. The relation between the price in the village and that in the secondary *mandi* is similar to the relation between the latter and the price in the principal *mandi*, but it is not identical with it. The constant in this case is not only different but more complex and uncertain. It is different because certain additional factors have to be considered for its determination. It is more complex and uncertain because some of these additional factors are not purely economic and do not admit of measurement with a fair degree of accuracy and constancy. The commercial life in the secondary *mandis* is comparatively organised and founded on an economic basis; it is not exactly so in the village, where the economic activities of the cultivator are almost indistinguishably intermingled with the social, and tradition at times assumes a more important role than economic reason. Therefore, before proceeding to estimate the constant by which the price in the village normally differs from the price in the nearest *mandi*, a knowledge of the non-economic or the extra-economic factors which influence, and in some cases govern, the economic behaviour of the cultivator is necessary.

The relation between prices in the village and the secondary *mandis* is similar to the relation between the prices in the secondary and the principal *mandis*, but not identical with it: extra-economic factors in village economy—

122. The first stage in the marketing operations of the cultivator is reached, in a large number of cases, even before he has sown the crops to which such operations relate. In a very few cases the average cultivator is able to save up a part of his crop for the purpose of utilisation as seed for the same crop next year; in equally few cases is he able to buy the seed he requires. By far a large majority of cultivators have to borrow the seed they sow. The sources most commonly open to them for the purpose of borrowing seed include the agricultural farms or the seed-stores of the Department

(i) the cultivator's indebtedness—his seed, generally borrowed by the cultivator

(*a*) Vide paragraph 20.

of Agriculture, the comparatively rich fellow-cultivators(*a*) of their own village or of villages in the neighbourhood, the village *bania*, the *mahajan*, and the *zamindar*. The Government seed-stores are easily the most efficient and economical agencies in this respect from the point of view of the cultivators both because they supply good seed and because their terms are comparatively easy. The *sahukar*(*b*) in general has, naturally, not welcomed these seed-lending stores which compete with him in his business and have tended to lower the rate of interest which he used to charge before these stores came into existence. He has, therefore, openly tried to bring them into disrepute and disfavour with his clients and looks with displeasure on those who transfer their patronage to them. The average cultivator is poor and realises that his crops depend very largely on the vagaries of nature and on other factors beyond his control. He therefore considers it prudent and desirable to keep secured to himself a source on which to fall back in times of need not only for borrowing seed but also for borrowing money for productive purposes as well as for purposes of consumption. This source is the village *sahukar*, who, because he helps the cultivator in his hour of need, exercises great personal influence over him. Illiterate, ignorant and indebted, the poor cultivator is confident that whatever else he may do, he cannot afford to displease the *sahukar*, and that so long as he enjoys his favour, he can tide over all his difficulties. It is from him that the cultivator, in a very large number of cases, borrows his seed.

from the village *sahukar* ;

its evil consequences ;

123. This socio-economic pressure, due to his indebtedness in general and his borrowing the seed from the village *sahukar* in particular, vitally affects the economic interests of the cultivator. Borrowing from the *sahukar* would, in itself, be no evil provided the quality of the seed were good, the rate of interest fair and the cultivator free to repay it in cash or kind according to his *own* choice. That the rate of interest is often unduly high does not concern the present argument. The quality of the seed affects the value of the crop grown by the cultivator in that it affects both the quality and the quantity of the produce. The fact of borrowing the

high rate of interest ;

injury to quality and quantity of produce ;

(*a*) The cases in which it is possible to obtain seed from a fellow-cultivator are rare.

(*b*) The term *sahukar* has been used to denote any seed-lending agency in the village. He may thus be the *zamindar*, the village *bania* (shopkeeper) or the *sahukar* (money-lender) proper. It may be pointed out that even where the *zamindar* or the *bania* lends the seed, it is not as *zamindar* or as *bania* that he does it. Lending of seed, as of money, is properly the function of the *sahukar* and while lending seed, the *zamindar* or the *bania* acts the *sahukar* to the cultivator. The term *sahukar* as used here therefore, has not been assigned a purely arbitrary or denotative meaning but bears a reference to existing conditions.

seed from the *sahukar*, however, affects the amount of money obtained by the cultivator for his produce in another and a more important way. So long as the crops stand in the field, not only do they feed the creditor or the creditors with a sense of security as to the recovery of the loan given to the owner of the crops, but the cultivator-debtor is also in a position to give an effective reply to the more impatient of his creditors to wait. As soon, however, as they have been harvested, insistent and persistent are the demands of the *sahukar* for repayment, not merely because he, like every economic being, thinks that the sooner he gets back his money the better would it be, but because he realises that the *zamindar's* claim for rent due from the cultivator is prior to that of his own, and that if the *zamindar* takes legal action against the cultivator, his own money (or seed) may remain unpaid. The result of these simultaneous demands of all the creditors is to put the cultivator in urgent need of cash at harvest time, with the consequence that he is obliged to sell his produce almost immediately after harvesting. He cannot wait for better prices, but must sell his produce at whatever rates happen to prevail at the time. There is thus, for the time being(a), an over-supply of the particular grain in practically all the *mandis* of the province. Cereals are of the nature of "necessities" and the demand for them is therefore comparatively inelastic. The prices of cereals, as of all agricultural produce, at harvest time, therefore, tend to be the lowest during the year, and the cultivator fails to obtain, on account of his poverty and indebtedness (mark the vicious circle!), the maximum value for his produce. The local *beopari* or the itinerant *beopari* or whoever buys the cereals from the cultivator in the village is only too well acquainted with this lack of waiting power on the part of the cultivator and is easily able to push the price down to the very minimum permitted by the intensity and urgency of the cultivator's want of money. The economic theorem that over-supply or eagerness on the part of suppliers to sell, coupled with comparatively inelastic demand, tends to lower the market price is nowhere else better illustrated in practice.

but above all, the cultivator's waiting power crippled

and his produce sold at lowest prices:

124. In quite a large number of cases, however, the *sahukar* happens to be a person who combines the business of lending seed with that of purchasing the village produce with a view to making a profit by selling it at a better price. He generally secures repayment of the seed lent by him

(ii) socio-economic pressure—

(a) e.g., the months of May and June for wheat.

cultivator's choice of buyers narrowed down,

in kind. Indeed the seed is often lent on the express condition or on a definite understanding that repayment will be made in kind out of the crop for which the seed is lent. But even in cases when there is no such binding condition or understanding the *sahukar* succeeds in obtaining payment in kind, if he so chooses. The cultivator cannot afford to displease the *sahukar* because he may have to borrow seed (and money) from him next year and in the years thereafter; the

resulting in further loss in price ;

sahukar knows this as well as the cultivator. The disadvantage to the cultivator in such a bargain is that he has to agree to a concession in price to the *sahukar*, which varies according to the personal relations between the two and the measure of the *sahukar's* influence on the cultivator. Ordinarily the concession merely on this account ranges, in the case of wheat, from 2 to 4 chhataks per rupee. The indebtedness of the cultivator in such cases is to him doubly disadvantageous.

(iii) the "*mandi* mentality"—

125. If the cultivator happens to be under no obligation to sell his produce to the *sahukar*, he may take his cereals to the nearest *mandi* instead of selling them in the village. Such freedom, however, gives him little material advantage. This anomaly can be explained by what may be termed the "*mandi* mentality". While the cultivator generally obtains in the *mandi* the same nominal price for his cereals as the *beopari*, a discrimination is made against him in respect of the incidental expenses commonly known as the *mandi* charges. The cultivator, as contrasted with a *beopari*, is a casual client with small custom. His dissatisfaction or displeasure does not mean any serious loss of custom to the *arhati*. When a cultivator reaches the *mandi*, he is easily recognised as such by the *arhati*, the *tola* (the weighman) and other *mandi* professionals and they try to squeeze as much money and grain out of him as possible. Not only does the nature of the *tola* develop a momentary generosity but also the capacity of his hands, which distribute grain from every cartload to a number of claimants, happens to become much greater when the seller is a cultivator. Abuses in weighment and in accounting are also not rare. It was pointed out by a few cultivators that the *mandi arhatis* offer currency notes in payment for their grain but because they prefer payment in rupee coins (change of currency notes being not always readily available in the village) the *arhatis* deduct one pice for every rupee coin paid as "*note-butta*" (discount on "notes"). Such serious complaints are very rare but they serve to show clearly the difference in the treatment meted out to the cultivator and the *beopari* in the *mandi*. A similar charge

the cultivator fails to to benefit materially from selling directly in the *mandi*,

on account of *mandi* discrimination against him ;

against the *beopari* would be beyond the comprehension of the *arhati*. In fact, as will be seen later[a], a good part of the profits of the *beopari* as middleman is due to the latter's ability to minimize the *mandi* charges. Though generally a silent spectator in the *mandi*, the cultivator knows it and feels it. To him the injury is financial—the average cultivator prizes every pice in his possession—but it is much more psychological: he sees it on an exaggerated scale. He feels that he has been unduly charged, that he would have got about the same amount of money if he had sold his produce in his village and that his personally bringing his cereals to the *mandi* has brought him little additional gain—a gain, he considers, not in proportion to the loss of time, inconvenience and botheration involved therein. He therefore rarely takes his cereals to the *mandi* except when he is hard-pressed for money and the itinerant buyer or the *beopari* has failed him altogether and there is no ready buyer in the village, or when the price obtainable in the village is exasperatingly low or when he is definitely idle—in short, when he considers, for whatever reasons, that he will be a gainer, in spite of the *mandi* discrimination against him, if he takes his grain to the *mandi*. In some villages the cultivators said that it was not economical to take their grain to the *mandi* in a hired bullock-cart and that therefore only those of them took their grain to the *mandi* who either had got a cart of their own or could borrow it without rent. Apparently the illiterate cultivator does not reckon depreciation—in fact, in many cases, any factor which does not involve an expenditure of cash—as an element of cost. The statement, however, helps to show the extent to which the discriminatory *mandi* charges against the cultivator go to reduce the additional gain that should accrue to him from selling his grain in the *mandi* instead of in the village. It also indicates the degree of specialization attained by the *beopari* in his profession including the sale in the *mandi*. As it is, while entering into a bargain with the *beopari* in the village the cultivator-seller is, as a consequence of this "*mandi* mentality", prepared to compromise another *chhatak* or two of grain per rupee. In fact when a *beopari* or any buyer presents himself in the village, he is often a welcome relief to the prospective sellers who try their best to effect a bargain with him. The *beopari*, again, knows this weakness of the cultivator's position and is shrewd enough to avail of it to the full. In actual practice, when the cultivator does not accept the rate proposed by him, he pretends to give up further bargaining and tries to draw before him as dark and gloomy a picture of a cultivator selling his grain in the *mandi* as he can. The words of

and this fact tends to lower the price to the cultivator in the village,

by reducing his bargaining strength against the *beopari*;

(a) *Vide* paragraphs 141 and 152, *post*.

the *beopari* are so selected as to appeal to the cultivator. Besides, curiously enough, there always happen to be present at the spot where the bargain is settled, a couple of his fellow-cultivators, who are easily won over by the *beopari* to corroborate his story about the "sad state of affairs existing in the *mandi*" and to agree with him that even the rate proposed by him (the *beopari*) would with difficulty leave him a sufficient margin of profit for his labours. The unpolished cultivator places, or misplaces, a child-like confidence in the "proper price" paid by the *beopari* and more often than not, accepts the rate proposed by him.

(iv) the cultivator's small loads

126. Besides the above factors, there is another consideration which not unoften compels the cultivator to sell his produce in the village. The average cultivator, even when the land at his disposal is small, generally likes to sow a number of crops. This tendency on the part of the cultivator may, to a considerable extent, be due to his very sane desire not to put all his eggs in one basket; for, in the United Provinces it is quite a common occurrence for one crop to be virtually ruined while others in the same area fare reasonably well. How far, however, this practice is merely a carry-over of the old self-sufficing village economy and whether and to what extent the cultivator resorts to it from considerations of foresight and prudence are not a concern of the present investigation. The result of the practice is that in not a few cases the cultivator has got too small quantities of any single type of grain to sell. Not only does it leave it of little advantage to the cultivator to take his cereals to the *mandi* for sale, but it injures his bargaining power as against the *beopari's* even directly. The *beopari* who makes his purchases from the village requires comparatively a large load to make his trip to the *mandi* worth while. He therefore often tries to reduce the price to those who have got small quantities to sell and does not care very much if his bargain with such sellers falls through. To those who have got fairly large quantities to sell he is inclined to pay better attention and would rather pay them a little higher price than go without buying the grain. For—the *beopari* knows the economic proposition—a small rate of profit spread over a large base means considerable total profits.

weaken his position as a seller :

the octroi duties—

127. The existence of octroi duties on cereals taken to the *mandis* also tends to act against the cultivator taking his grain to sell in the nearest *mandi*. When the cultivator has got less than a cartload of grain to sell, the octroi duty becomes

a more effective deterrant if the duty is levied at a flat rate per cart or bullock irrespective of the quantity of grain. Unfortunately, the cultivators have not yet learnt to combine or co-operate in their marketing operations. Only in a single instance it was found that several cultivators put their separate loads of grain in the same cart with a view to avoid payment of octroi duty separately. It is, however, not suggested that the other method of charging the duty—namely, by weight of the grain—is better. In fact, the cultivators showed greater dislike to payment by weight as, for certain reasons, it tends to delay them at the octroi barrier more than the other method.

a deterrant

128. Even apart from the combined effect of the influences noted in the preceding paragraphs, there is another factor which directly places the cultivator as seller in a weak position in relation to the *beopari*. As a buyer the *beopari* has a maximum price which he would pay for the cereals rather than go without buying them, just as the cultivator as seller is expected to have a minimum price which he would accept rather than go without selling his grain. Between these two limits or extremes the actual price must be fixed; its nearness to the one extremity or the other depends on the relative bargaining strength of the two, the buyer and the seller. The *beopari* is generally an experienced professional, whose business it is to buy cheap and to sell dear. On his success in this business depends his living and on the difference between the two prices—his purchase price and his sale price—his prosperity. His sale price is more or less beyond his control (being determined by the *mandi* where he sells), specially if he does not stock the cereals he buys but sells them immediately. His skill in maximising his profits and the success of his efforts to improve his economic prosperity are thus directly to be measured by the extent to which he pushes down his purchase price to the cultivator's minimum. Not only, therefore, is he invariably better informed about the fluctuations in the rates in the neighbouring *mandis* and about other relevant factors, but he knows the strength and the weakness of the cultivator's position as well as his own. An expert in higgling and bargaining, he is thus easily in a position to obtain the best rate possible under the existing conditions. The cultivator-seller, on the other hand, is not only comparatively ill-informed about the rates prevailing at the time but is illiterate and ignorant. While, in order to arrive at the minimum price that he may accept in the village, he tries to imagine the net price that he would be able to obtain by selling his grains in the *mandi* after deducting all the expenses he would incur therein, he fails to understand that the *beopari* has also got

(v) the cultivator's illiteracy and general ignorance—

leading to uneconomic behaviour on h's part,

a maximum price to offer and that so long as the *beopari* is assured of a reasonable *total* profit, he may be induced to buy at a smaller *rate* of profit than the entire difference between the seller's (i.e., the cultivator's) minimum and the buyer's (i.e., the *beopari's*) maximum price would secure to him. Like the beopari he knows his own weakness but, unlike him, he is unable to sound the weakness of the opposite party (that is, the *beopari*). He takes into account only the dark side of his case and not the bright one also. He considers only his weakness and omits to balance it against his strength or against the *beopari's* weakness. This one-sided view of the position by the cultivator considerably diminishes his bargaining strength; and although a price somewhere between the two extremes would give the *beopari* all the profit that is necessary to induce him to buy, the latter, actually, is able in most cases to force the price down to the very minimum acceptable to the cultivator. No wonder therefore that in practice the *beopari* is able to obtain a rate more favourable to himself than is actually warranted even by the existing economic conditions. The cultivator's spirit of resignation, forced on him by the monotony of his economic helplessness and his fatalistic outlook on life, as well as his general and economic ignorance is fully exploited by the middleman-buyer in the village.

injure his bargaining strength

and result in lowering the price to him.

CHAPTER VIII

THE PRICE IN THE VILLAGE (*concluded*)

The "economically nearest" *mandi*—definition.

129. Cereals are taken for sale from the village by the producer, or more generally by the *beopari*, to the economically nearest *mandi*[a]. The term "economically nearest" does not necessarily imply geographical proximity, but refers to geographical position in relation to the efficiency of the means of transport and communication. Thus a *mandi* 20 miles away from a particular village is understood as being economically nearer to that village than another *mandi* only 10 miles away if on account of more efficient means of communication the cost of transportation from the village to the former *mandi* is less than to the latter *mandi*. In the present chapter, however, the term "economically nearest" has been used in a still narrower sense. Not merely the cost of transportation but also other factors like octroi, *mandi* charges and the level of prices have to be taken into account for the determination of the "economically nearest" *mandi* with respect to any particular village. Thus it may happen that while the cost of transportation, octroi duty and other expenses including *mandi* charges are, in the case of *mandi A*, greater than in the case of *mandi B*, the prices in *A* are so much higher than in *B* that, on the whole, *mandi A* proves more advantageous to the seller than *mandi B*. Apparently the importance of the cost of transportation in determining the "economically nearest" *mandi* in relation to a particular village is undeniable, but where a *mandi* offers a possible alternative to the seller, it has been found that the existence or the absence of octroi duty is, in practice, the deciding factor. Where, however, the cost of transportation and the octroi duty are together equal, "*mandi* charges" determine the "economically nearest" *mandi* for the particular village. The term "nearest" has hereafter been used to denote "economically nearest."

The "marginal" village and the "economically nearest" *mandi*—

130. The village in which all the above economic considerations in favour of or against two alternative *mandis* exactly balance, must be called the "marginal" village with respect to those two *mandis*. Whether the produce from a marginal village will flow to one or the other of the two *mandis* should ordinarily depend on the whim of the seller or on the nature of his personal relations with the *arhatis* in the two *mandis*. In practice, however, there exist in a large number of villages non-economic influences which not only decide the direction of the flow of surplus produce in such marginal villages but

(a) Paragraph 10.

the importance of non-economic influences.

even divert it, in some cases, from the economically nearer *mandi* to one more distant. Tradition and social pressure are two of the most important of such influences. The former of the two is founded on the cultivator's general ignorance and illiteracy; the roots of the latter can be traced down to an economic sub-soil.

The price in the village and the nearest *mandi*.

131. The *mandi* which is nearest to a village has been assumed, in a typical case, to be a secondary *mandi*[a]. It has been seen in the last chapter that several factors combine to compel the producer to sell his surplus cereals to the *beopari*[b] in the village. The price which the cultivator gets for his cereals in a typical case is, therefore, the price paid to him by the *beopari* who buys cereals from him in the village with a view to selling them in the nearest secondary *mandi*. The price in the latter provides the basis for the price in the village. No statistics are needed, nor are they available, to prove this axiom of rural life. It is, therefore, proposed next to find a measure of the normal difference between the prices in a village and the nearest secondary *mandi*. The causes of this normal difference are fundamentally the same as those responsible for the differences in the prices in the principal *mandi* and the secondary or the outside *mandis*—namely, the *mandi* charges and the cost of transportation including octroi duties.

"*Mandi* charges" in secondary *mandis*—

132. The "*mandi* charges" in *kachchi arhat* vary more widely in the different *mandis* and within the same *mandi* than those in *pukki arhat*. A rough idea of the average "*mandi* charges" in the secondary *mandis* may, however, be obtained from Table XXXV below, which gives the charges which a *beopari* has generally to bear in selling his wheat through the *kachcha arhatis* in the *mandis* noted.

TABLE XXXV—"Mandi *charges*" *in some important secondary* mandis (kachchi arhat)

	Charges	
	Cash	Kind
(1) Baraut (Meerut)—	Rs. a. p.	
Arhat	0 6 3 per Rs.100	..
Palledari	..	1 chh. per maund.
Other services ..	..	4 chhs. per maund. (approx.)

il lustrations.

(*a*) Paragraph 10.

(*b*) The term "*beopari*" has been used so as to include al agencies like the *mahajan*, the *sahukar*, the *bania* and the *zamindar*, who buy cereals from the cultivator in the village with a view to selling them at a profit either immediately or at a later date. It is common in the rural areas of the United Provinces for the same person to combine the functions, for instance, of the *sahukar* and the *beopari*. In such cases, however the person so combining the functions has to be treated as two or more distinct economic personalities.

	Charge	
	Cash	Kind
(B) Budaun—		
Goshala	0 2 0 per Rs.100	..
Karda	0 5 0 ditto	..
Dalali (if any) ..	0 2 0 ditto	..
Palledari	..	2 chhs. per maund.
Tulai	..	20 chhs. per cart.
Kantewala (weighman)	..	8 ,, ditto.
Rent of land ..	..	8 ,, ditto.
Other services [*bhangi* (sweeper), *paniwala* (waterman), etc.]	..	1 sr. 12 chhs. ditto. (approx.)
(C) Khurja (Bulandshahr)—		
Arhat(a)	0 12 6 per Rs.100	..
Rulai (allowance for dust)	0 2 6 ditto	..
Goshala	0 0 9 ditto	..
Palledari	0 1 0 per 5 mds.	..
Dane (grains) ..	0 10 0 per Rs.100	(equivalent of 4 chhs. per maund of grains.)
(D) Hathras (Aligarh)—		
Brokerage	0 5 0 per Rs.100	..
Goshala	0 1 0 ditto	..
Ramlila	0 0 3 ditto	..
Majoori (coolie's charges)	0 0 6 to 0 1 0 per 1½ mds.	..
Tulai	..	4½ srs. per cart.
Palledari (labourers other than coollies).	..	12 chhs. ditto.
Other services ..	..	8 ,, ditto.

(*a*) The charge for *arhat* is Re.1-9 per Rs.100 but the *beopari* is refunded Re.0-12-6. In case of cereals other than wheat, the *arhat* is charged from the buyer.

	Charges	
	Cash	Kind
(E) Chirgaon (Jhansi)—	Rs. a. p.	
Arhat	1 0 0 per Rs.100	..
Town area tax ..	0 8 0 ditto	..
Dharmada	0 1 0 ditto	..
Palledari	0 0 6 per bag.	..
Karda	..	4 chhs. per maund.
Tulai	..	1 seer per cart.
Sample to buyer ..	..	12 chhs. per cart.
Other services ..	..	2 srs. per cart. (approx.)

The cash charges vary less than charges in kind.

133. The cash "*mandi* charges" generally do not vary so much within the same secondary *mandi* as do the charges in kind. Indeed, since these latter are almost invariably measured not by weighment but by means of handfuls, no definite figure can be assigned to them. Assuming, however, an average charge of 4 chhataks per maund for all the services excluding *palledari* (coolie charges) which are paid in kind in the secondary *mandis*, the total *mandi* charges work out as follows :

TABLE XXXVI—*Total* mandi *charges per Rs.*100 *in the secondary* mandis *of the United Provinces* (kachchi arhat)

Total *mandi* charges in secondary *mandis*.

Name of *mandi*	*Mandi* charges per Rs.100
	Rs. a.
1. Baraut	.. 1 3
2. Budaun	.. 1 8
3. Khurja	.. 2 2
4. Hathras	.. 2 5
5. Chirgaon	.. 3 5

Variation in *mandi* charges in the secondary *mandis*.

134. It will be seen from the above Table that even the average *mandi* charges vary from Re.1-3 per Rs.100 in Baraut to Rs.3-5 per Rs.100 in Chirgaon. These limits, however, by no means, show the extremes of the range of variation in the *mandi* charges in the secondary *mandis*. Thus in certain *mandis* no cash charge is levied on the seller and his total expenses amount to a small quantity of grain, while in

certain others an *arhat* of Re.1-9 per Rs.100 without any refund is charged from the *beopari* in addition to all the multifarious charges in kind.

The average *mandi* charges in the secondary *mandis*.

135. The arithmetic mean of the charges shown in Table XXXVI comes to about Rs.2-1-6 per Rs.100 and the median is Rs.2-2 per Rs.100. Although not much statistical value can be assigned to these averages unless the five *mandis* considered above are typical of the secondary *mandis* in the province, it does appear, on a consideration of the *mandi* charges in all the important secondary *mandis* of the United Provinces that the best average of the *mandi* charges paid by the *beopari* in the secondary *mandis* would be about Rs.2-2 per Rs.100. And since Khurja has been taken as a typical example of the secondary *mandis* of the province and the *mandi* charges at Khurja, according to Table XXXVI, amount to Rs.2-2 per Rs.100, the average *mandi* charges paid by a *beopari* in selling his wheat through the *kachcha arhatis* in the secondary *mandis* of the province may be taken to amount to Rs.2-2 per Rs.100 or to 2·125 per cent. If the average price of wheat in the secondary *mandis* of the United Provinces be Rs.2.396(*a*) per maund, these charges would come to a little less than 10 pies per maund.

The octroi duties.

136. The second factor contributing to the normal difference between the average prices in the village and the nearest secondary *mandi* is the cost of transportation including octroi duty, if any. The rate of octroi duty on cereals varies widely, from Re.1 per cart drawn by two bulls in Muzaffarnagar to Re.0-1-6 per maund in Bareilly. In many secondary *mandis* the octroi duty does not exist at all, notable amongst such *mandis* being Baraut, Shamli, Khatauli, Deoband, Dankaur, Deoria, Atarra and Chirgaon. Moreover, the incidence of the octroi duty rarely falls wholly on the consumer. In view of these considerations, the contribution of the octroi duty to the normal difference between the average prices in the village and the secondary *mandis* may be left out of account.

The average cost of transport on village—*mandi* roads—

137. The cost of transporting cereals from the village to the *mandi* is dependent, in addition to other factors, on the type of road connecting the two. In a large number of cases these roads are *kachcha* roads, and in some cases there are no roads worth the name. The cost of transport in such cases must be higher than when a *pukka* road connects the village with the *mandi*. In many cases a part of the way from the village to the *mandi* is *pukka*. While the rates vary, to a certain extent, with fluctuations in the prices of

(*a*) The calculated average price at Khurja during 1935-36, *vide* paragraph 118.

cereals, tradition and custom play quite an important part in determining the actual rent for a cart from a particular village to the neighbouring *mandis*. A study of a number of "samples" from all over the province reveals that the rates of transport tend to conform to the "zone" system, according to which the rate for all places within a certain radius is the same. The cost of transportation of cereals on *pukka* roads connecting the principal and the secondary *mandis* has been roughly estimated at less than 1 pie per mile per maund(*a*). On these roads, however, there generally exists a keen competition between rail, motor and *thela* transport services. These factors are practically absent on roads connecting the villages with neighbouring *mandis*. The rates on these roads are therefore higher. The average hire that has to be paid for the use of a cart with two bullocks and the services of a driver for the purpose of transporting cereals from a village to the neighbouring *mandis* works out to about 1·5 pies per maund per mile on *pukka* roads and 2·5 pies per maund per mile on *kachcha* roads(*b*). The "mode", however, appears to lie at 1·6 and 2·6 pies respectively for the two types of roads. The rates tend to decrease for longer distances but are comparatively high for short distances.

the rates conform to the "zone" system ;

cost per mile on *kachcha* and *pukka* roads.

The average cost of transporting cereals from a village to the nearest *mandi*.

138. The total normal difference between the prices in a village and the nearest *mandi* therefore varies according to the distance between the village and the *mandi* and according as the road connecting the two is *pukka* or *kachcha* or partly *pukka* and partly *kachcha*. It would be misleading to give any definite figure of average distance between villages and the nearest *mandis* for the province as a whole. Thus in some cases a village may itself be a secondary *mandi* while in others it may lie many miles away from the nearest *mandi*. The normal difference between the prices can therefore be worked out only by taking a particular example. Thus if a village lies 6 miles from the nearest *mandi*, of which 4 miles comprise of *kachcha* road and 2 of *pukka* road, the average cost of transporting cereals from such a village to the secondary *mandi* would amount to about Re.0-1-1 per maund. And since the transport rates on these roads show a tendency to conform to a zone basis, this rate of Re.0-1-1 per maund may be assumed to be applicable to villages which are a little more or a little less than 6 miles from the nearest secondary *mandi*. All figures worked out in the following paragraphs of this chapter concerning the difference between the prices in a village and the nearest *mandi* relate to the

(*a*) Paragraph 116.

(*b*) The average rate for villages situated far down into the interior would be a little higher as the condition of the *kachcha* roads in such cases is very bad.

assumed instance in which the village is about 6 miles from the nearest *mandi* or where the cost of transporting cereals from the former to the latter amounts to about Re.0-1-1 per maund(*a*).

The "standard" difference between prices in a village and the nearest secondary *mandi*

139. The minimum difference which should normally exist between the prices of cereals in a village and the nearest secondary *mandi* thus comes to about Re.0-1-11 or Re.0·120 per maund. If the price of wheat in the nearest secondary *mandi* be Rs.2·396 per maund(*b*), the maximum price that the buyer in the village, that is, the *beopari*, can offer to the seller, the cultivator, would come to about Rs.2·276 per maund. It has, however, been pointed out in the preceding chapter(*c*) that the actual price in the village is much nearer to the seller's "minimum" than to the buyer's "maximum". To find the "average" price obtained by the cultivator in the village, an approximation to the minimum price acceptable to the seller in the village has therefore to be found. This "minimum", it has been pointed out(*c*), is affected not only by economic factors but also by extra-economic considerations and takes into *full* account all the conditions operating against the cultivator-seller when he takes his surplus grains to sell in the nearest secondary *mandi*. The minimum difference between the prices in the village and the nearest *mandi* may be called the "standard" difference and the corresponding price in the village the "standard" price, to distinguish them from the "average" difference and the "average" price in the village which are worked out in the following paragraphs.

is less than the "average" difference.

The *mandi* charges paid by the *beopari* are less than those paid by the cultivator.

140. The charges scheduled in Table XXXV above are the charges which a *beopari* ordinarily has to pay in the secondary *mandis*. The "*mandi* charges" to the cultivator are not the same—they are invariably higher. The extent of the discrimination against the cultivator-seller, measured in economic terms, varies from *mandi* to *mandi*. A different average for the "*mandi* charges" incurred by the cultivator in selling his cereals through the *kachcha arhatis* in the secondary *mandis* has therefore to be found.

141. The "*mandi*" charges paid by the *beopari* are also paid by the cultivator. The latter, however, generally pays

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(*a*) The "radius of influence" of a *mandi* from which the *average* distance of villages lying within its "circle of influence" is 6 miles would be about 12 miles, so that two adjacent *mandis* would ordinarily be about 24 miles apart. It may be suggested that the assumed figure of 6 miles for the distance between a village and the nearest *mandi*—or better, of Re.0-1-1 per maund for the average cost of transporting cereals from a village to the nearest *mandi*—is not altogether arbitrary or imaginary.

(*b*) The calculated average price of wheat at Khurja during 1935-36, *vide* paragraph 113.

(*c*) *Vide* paragraph 128.

The additional *mandi* charges paid by the cultivator

a little more either under some new head or under the same items of charge. For example, it has been pointed out, the charge for *arhat* in the *mandi* of Khurja is Re.1-9 per Rs.100 but of this Re.0-12-6 are refunded to the *beopari*. It is not rare that the ignorant cultivator fails to secure this refund. The discrimination against the cultivator, however, displays itself to a more marked extent in the charges made from the seller in kind. Not only does the capacity of the *tola's* hands distributing grain increase remarkably when the seller is a cultivator, but the number of persons who obtain the benefit of a free gift of a handful of grain also swells considerably. A complete list of such recipients would include the *tola* himself, the *palledars*, the *charhanewala* (person putting grains in the scale), *bharnewala* (person filling weighed grains in the bags), the *chamarin* or the sweeper, the *pyau-wala* (waterman), the *pujari* (temple-keeper), the *faqir* (sage), the beggar, the *chaukidar* (watchman), the landlord, the policeman and the municipalman. Not that all these get grain from the cultivator's cart in every instance or in every *mandi*, but if any one of them happens to approach with a demand or a request while the grain is being weighed, the *tola* is loath to refuse. An average of 4 chhataks per maund was estimated as charges in kind paid by a *beopari*. An additional charge of 2 chhataks per maund does not appear to be by any means an over-estimate in the case of a cultivator-seller.

The total *mandi* charges incurred by the cultivator.

142. If to the average *mandi* charges paid by the *beopari* —namely Rs.2-2 per Rs.100—be added Re.0-12-6 per Rs.100 of *arhat* and 2 chhataks per maund (or 5 annas per Rs.100) of grains which the cultivator pays in addition, the *mandi* charges incurred by the cultivator would amount to Rs.3-3-6 per Rs.100 or 3·219 per cent. This appears to be the amount paid by the cultivator-seller, on an average, as *mandi* charges for selling his wheat through the *kacheha arhatis* in the secondary *mandis*. If wheat sells at Rs.2·396(*a*) per maund, these charges would amount to a little less than Re.0-1-3 per maund.

The cost of transportation to the cultivator.

143. The cost of transportation from the village to the *mandi* is practically the same to the cultivator as to the *beopari*. In fact, the question whether the cultivator will take his surplus grains to sell in the *mandi* or sell them to the *beopari* in the village largely depends upon whether he owns a cart of his own or not. The cultivator considers only such costs as he has to pay in cash and seldom takes into account factors like depreciation or the labour of himself and his bullocks as elements of cost. When therefore he does

(*a*) The calculated average price at Khurja during 1935-36, *vide* paragraph 113.

not own a cart, he is prepared to allow to the *beopari* a greater margin over the price in the nearest *mandi* than when he owns a cart. The *beopari* generally possesses a cart of his own, and if he does not, can easily secure one at rates usually charged from the cultivators. The difference in the prices due to cost of transportation therefore only tends to be greater when the cultivator-seller does not own a cart.

Abuses of weighment of grain in the *mandi*—

144. Another factor which the cultivator takes into account when settling the price with the *beopari* in the village and of which the *beopari* tactfully reminds him is the way the grains are weighed by the *tola* in the *mandi*. In many cases, the cultivator believes—not always wrongly—that the grain is underweighed in the *mandis* to his disadvantage. The grain is practically always weighed by a 5-seer measure and can therefore ordinarily be underweighed to the extent of from half a chhatak to 2 chhataks every time. The loss to the cultivator thus amounts to from 4 to 16 chhataks per maund. If the average loss be taken at about 6 chhataks per maund and wheat sell at Rs.2·396(*a*) per maund, the average loss to the cultivator on account of defective weighment in the *mandi* would amount to a little over 4 pies per maund.

the loss to the cultivator.

Other factors weakening the bargaining position of the cultivator in the village—

145. If in addition to these considerations other factors are taken into account, namely, the cultivator's urgent need for cash, the fact of his being ill-informed about the prices in the *mandi*, his reluctance to taking his grains to the *mandi*, his child-like confidence in the *beopari* for charging "proper profits" and offering "*thik dam*" (proper price), or again, the extra-economic factors like the pressure of the *sahukar-beopari*, an additional margin of not less than 3 chhataks per rupee in favour of the *beopari* must be taken into account. If wheat sells at Rs.2·396(*a*) per maund, this would amount to about 5 pies per maund.

their net effect.

The *beopari's* "minimum" and the cultivator's "maximum"

146. The total margin that the cultivator, while settling the price with the *beopari* in the village, has therefore in view against the price in the nearest *mandi* amounts to Re.0-3-1 per maund. This represents the maximum difference which the cultivator-seller in the village would ordinarily allow in favour of the *beopari* in the village rather than go without selling his grain. The *beopari's* corresponding minimum, it has been seen, normally amounts to Re.0-1-11 per maund. Between the limits provided by these two margins must be fixed the "average" price received by the cultivator. In other words, the "average" difference between the prices in the village and the nearest secondary *mandi* must lie between Re.0-1-11 and Re.0-3-1 per maund. Considering

(*a*) The calculated average price at Khurja during 1935-36, *vide* paragraph 113.

The fixation of the "average" difference between prices in the village and the nearest secondary *mandi*.

the relative strength of the *beopari's* position, his shrewdness and skill in bargaining and the fact that the actual price obtained by the cultivator in the village is much nearer to his "minimum" than to the *beopari's* "maximum"(*a*), the "average" difference existing between the prices in the village and the nearest secondary *mandi* would come to about Re.0-2-10 or Re.0·177 per maund. If the price of wheat in the nearest secondary *mandi* be Rs.2·396(*b*) per maund, the "average" price of wheat in the village may be put down at about Rs.2·219 per maund.

The "standard" as well as the "average" price in the village is different from the price actually obtained by the cultivator—

147. The "standard" price of wheat that should be obtainable to the cultivator in the village and also the "average" price in the village have been calculated above. A further distinction must, however, be made between the latter price and the price actually obtained by the cultivator-seller in the village. For reasons already indicated, the cultivator is generally obliged to sell his surplus produce almost immediately after the harvest. By far a large majority of the producers of wheat, for example, sell all their surplus wheat by the middle of June. Consequently the price of wheat tends to be very low during the months of April, May and June. It is this price which the cultivator actually gets for his surplus wheat. A truer approximation to the price *actually* obtained by the cultivator-seller in the village would therefore be obtained if the average of the prices during the harvest period (that is, the harvest price) were considered instead of the average of the prices during the whole year (that is, the annual price).

the "actual" price is based on harvest prices.

The "standard," the "average" and the "actual" differences defined.

148. The "average" difference between the prices in the village and the *mandi* is the difference which normally exists between these prices at any one given time. The "standard" difference is the minimum difference which should normally exist between them. The conception of "actual" difference is founded on the fact that the cultivator has to sell his produce immediately or very soon after the harvest time so that the price he obtains in the village is based on the *harvest* price in the *mandi*. The "actual" difference is the difference between the price actually obtained by the cultivator in the village and the *annual* price in the *mandi* and is therefore equal to the "average" difference *plus* the difference between the annual and the harvest prices in the *mandi*.

149. Table XXXVII below gives the average harvest prices of wheat at Hapur during the last three years. The prices

(*a*) Paragraph 128.
(*b*) The calculated average price at Khurja during 1935-36, *vide* paragraph 113.

given represent the arithmetic average of the weekly prices from the 15th of April to the 15th of June in each year.

TABLE XXXVII—*Average harvest prices of wheat at Hapur* (1933—36)

Year	Average price (Rs. per maund)
1933-34	3·057
1934-35	2·271
1935-36	2·448
1933—36	2·592

Harvest prices of wheat at Hapur

150. The average harvest prices of wheat in a secondary *mandi* like Khurja may be estimated on the basis of the average harvest prices at Hapur and the normal difference between the prices in the principal and the secondary *mandis*. The prices given in the following table have been calculated according to the method adopted in paragraph 111.

TABLE XXXVIII—*Calculated harvest prices of wheat at Khurja* (1933—36)

Year	Average price (Rs. per maund)
1933-34	2·912
1934-35	2·144
1935-36	2·317
1933-36	2·458

and in a secondary *mandi*.

151 If the expenses of the *beopari* and the cultivator in marketing cereals in the nearest secondary *mandi* be worked out on the basis of the average harvest price during 1935-36, namely, Rs.2·317 per maund (as against the average *annual* price during 1935-36 on the basis of which they have been calculated before), the *beopari's* "minimum" difference and the cultivator's "maximum" difference are reduced from Re.0-1-11 and Re.0-3-1 per maund to Re.0-1-10·5 and 3 annas per maund respectively. The difference at which the bargaining strength of the cultivator and the *beopari* balances will therefore be about the same as the "average" difference estimated before, namely Re.0-2-10 or Re.0·177 per maund. If the average harvest price in the nearest secondary *mandi* be Rs.2·317 per maund, the "actual" price in the village may therefore be expected to be Rs.2·140 per maund. The difference between this "actual" price and the average *annual* price in the nearest secondary *mandi* (namely Rs.2·396(*a*) per maund) thus comes to Re.0.256 or about Re.0-4-1 per maund, which is therefore the "actual" difference between the prices in the village and the nearest secondary *mandi*.

The "actual" difference between prices in the village and the nearest secondary *mandi*.

(*a*) The calculated average price at Khurja during 1935-36, *vide* paragraph 113.

The profits of the *beopari*.

152. Before proceeding to consider the case when the cultivator himself takes his surplus grain to sell in the nearest secondary *mandi*, a few words may be said about the profits of the *beopari*. Buying at a price lower by Re.0-2-10 per maund and incurring expenses amounting to Re.0-1-10·5 per maund, he makes, on an average, a clear profit of 11·5 pies per maund. But he generally succeeds in making higher profits. His total marketing expenses (namely, Re.0-1-10·5 per maund) are due to cost of transportation (Re.0-1-1 per maund) and the *mandi* charges (9·5 pies per maund). Practically always, however, he owns the means of transport and thereby effects a saving under that head. In some cases, he is able to reduce the *mandi* charges also. The fluctuations in the price form his greatest "business risk", but since he buys from the ill-informed cultivator, he manages, more often than not, to turn them to his own advantage. The rate of about 1 anna per maund must therefore be regarded as the minimum rate of profit made by the *beopari*. If, however, he does not sell the grain immediately after buying but stocks them to sell at a better price, he may be supposed to sell at the average *annual* price of Rs.2·396 per maund (as against the average harvest price of Rs.2·317 per maund). In such cases, therefore, he buys at a price which is lower than his sale price by Re.0-4-1 per maund, while his marketing expenses amount to Re.0-1-11 per maund. He thus makes a profit of Re.0-2-2 per maund less his stocking expenses.

When the cultivator himself takes his grain to sell in the nearest secondary *mandi*,

153. From the replies given by the cultivators in various parts of the Province it appears that, on a consideration of purely economic factors only, the average cultivator does not regard the practice of selling his surplus produce in the village as the best method of marketing his cereals. It is therefore an anomalous fact that he generally sells it in the village except (1) when the *beopari* fails him, or (2) when he has got a cart of his own (or can command one gratis) or (3) when he is more or less idle. In the first case the cultivator is helpless and has no option but to take his produce to the *mandi*, but the reasons for the other two exceptions are economic and elucidate the anomaly indicated above.

his additional gain is ordinarily inadequate.

154. When the cultivator himself takes his grain to sell in the nearest secondary *mandi*, the village *beopari* is eliminated from the chain of middlemen. But such an elimination does not mean the transferance of the entire profits of the *beopari* to the cultivator. The maximum difference between the prices in the village and the nearest secondary *mandi* which the cultivator-seller would ordinarily allow in favour of the *beopari* in the village rather than go

without selling his grain has been calculated at Re.0-3-1 per maund. Of this, however, only 5 pies, according to the cultivator's point of view, form the profit of the *beopari*[a], the rest (that is Re.0-2-8) being due to the cost of transportation and the charges borne by the cultivator-seller in the secondary *mandi*. Therefore, when the cultivator himself sells his cereals in the nearest secondary *mandi*, his net price, that is, the price he actually obtains after deducting all his marketing expenses, would come to be lower than the nominal price in the secondary *mandi* by about Re.0-2-8 per maund. When, however, he sells his grain to the *beopari* in the village, this difference amounts to Re.0-2-10 per maund[b]. Therefore the gain to the cultivator from taking his cereals himself to sell in the nearest secondary *mandi* comes to only about 2 pies per maund. If a cart contain, on an average, 16 maunds of grain, the total gain to the cultivator per trip to the nearest secondary *mandi* would thus amount to less than 3 annas.

unless he owns a cart.

155. A trip to the *mandi* for the purpose of selling his surplus cereals ordinarily costs the cultivator not less than one complete working day. The economic value of the gain of about 3 annas therefore is an attraction and an inducement to the cultivator only when he is otherwise idle. But the gain to the cultivator from taking the cereals to the *mandi* is greatly increased when he owns a cart. For the illiterate cultivator is prone to consider only the money expenses and does not reckon the depreciation of his cart or the extra exertion on his bullocks as elements of cost. His gain in such a case therefore increases by Re.0-1-1 per maund (i.e., the cost of transportation) and would amount to about Re.1-4 per trip with a cart carrying 16 maunds.

The invidious discrimination against the cultivator in the *mandis*—

156. It appears from the foregoing considerations that it does not ordinarily give any great material advantage to the cultivator to sell his surplus cereals personally in the nearest secondary *mandi*, unless he owns a cart. This is, however, a short-period point of view. If the *arhatis* in the *mandi* see any promise of a regular and large custom in any cultivator, they would, in their own interests, be prepared to give him the same concessions and offer him the same treatment as they at present extend to the *beopari*. If, therefore, the cultivator could take his surplus produce regularly to the *mandi* instead of selling it in the village, the village *beopari* would gradually be automatically eliminated and ultimately the entire profits of the *beopari* would be available to the cultivator. In other words, the "average" price would tend to coincide with the "standard" price, the difference between the prices in the

(a) *Vide* paragraph 145. (b) *Vide* paragraph 146.

its evil effect.

village and the nearest secondary *mandi* being reduced to only about Re.0-1-11 per maund. This minimization of the difference between the prices in the village and the nearest *mandi* is at present denied to the poor and needy cultivator on account of the invidious discrimination against the cultivator in the *mandis* of the province.

When the nearest *mandi* happens to be a principal *mandi*—

the advantages of favourable geographical position.

157. So far only those villages have been considered whose surplus produce, in accordance with our typical instance, flows down to the principal *mandi* of the region through a secondary *mandi*. The villages which lie within the zone of a principal *mandi*, however, sell their surplus cereals directly in the principal *mandi*, eliminating thereby the medium of the secondary *mandi*. A direct sale in the principal *mandi* always proves more advantageous to the seller than one through a secondary *mandi*, for, not only are the middleman's profits thereby eliminated to the advantage of the seller, but the *mandi* expenses charged from the seller are, on an average, also less in the principal *mandis* than in the secondary *mandis*. Other expenses connected with the marketing of cereals also tend to be lower in the principal *mandis*, which are, on the whole, better organized than the secondary *mandis*. Such villages, therefore, as lie within the radius of influence of a principal *mandi* get better prices for their produce on account of their comparatively good geographical position(*a*).

Mandi charges to the *beopari* and the cultivator in the principal *mandi*—

158. Table XXXIX below gives the average *mandi* charges borne by the village *beopari* and the cultivator, separately, in selling wheat through the *kachcha arhatis* in some of the important principal *mandis* of the province. The charges in kind have been reduced to their money equivalents.

TABLE XXXIX—Mandi *charges in some principal* mandis *of the United Provinces* (kachchi arhat)

illustrations.

Item of charge	Charge per Rs.100 borne by—	
	the *beopari*	the cultivator
(A) Hapur—	Rs. a. p.	Rs. a. p.
Dane(*b*)	0 5 0	0 10 0
Grains	0 7 6	0 10 6
Total ..	0 12 6	1 4 0

(*a*) The radius of influence of a principal *mandi* is to be considered bigger than that of a secondary *mandi* in proportion to the comparative economies and advantages it offers to the seller over the adjoining secondary *mandis*. In fact, it was seen in certain instances that the produce from the village was taken directly to the principal *mandi* of the region, passing on its way a secondary *mandi*, for the reason that "on the whole more money was obtained for the same cart-load in the principal *mandi* than in the secondary *mandi* although the latter was by far the nearer of the two."

(*b*) The rate of charge is 10 annas per Rs.100, of which 5 annas are refunded to the seller; the cultivator, however, generally fails to obtain this refund.

Item of charge	Charge per Rs.100 borne by—	
	the *beopari*	the cultivator
	Rs. a. p.	Rs. a. p.
(B) Chandausi—		
Arhat	0 12 6	1 9 0
Grains	0 10 6	0 12 6
Total ..	1 6 6	2 5 6
(C) Bareilly—		
Arhat	1 0 0	1 9 0
Dalali	0 2 0	0 2 0
Goshala	0 1 9	0 1 9
Grains	0 7 6	0 10 0
Total ..	1 11 3	2 6 9
(D) Cawnpore—		
Arhat	1 0 0	1 9 0
Dalali	0 2 6	0 2 6
Munimi	..	0 2 0
Other services	0 7 6	0 10 0
Total ..	1 10 0	2 7 6
(E) Benares—		
Arhat	0 12 6	1 9 0
Dalali	0 4 0	0 4 0
Dharmada and *goshala*	0 1 0	0 1 0
Tulai and *munimi*	0 1 9	0 1 9
Grains	0 7 6	0 10 0
Total ..	1 10 9	2 9 9

The total *mandi* charges to the *beopari* and the cultivator in the principal *mandis*.

159. The *mandi* charges vary greatly even in the principal *mandis*. The average charge in kind is calculated at 3 chhataks per maund for the *beopari* and 4 chhataks per maund for the cultivator, as against similar averages of 4 chhataks and 6 chhataks per maund respectively calculated in the case of the secondary *mandis*. The total *mandi* charges in the principal *mandis* of the United Provinces appear to amount, on an average, to Re.1-8 per Rs.100 for the *beopari* and Rs.2-4 per Rs.100 for the cultivator(*a*), against similar charges of Rs.2-2 and Rs.3-3-6 per Rs.100 respectively in the secondary *mandis*(*b*). It will be seen that the discrimination against the cultivator (as contrasted with the *beopari*) is less marked in the principal *mandis* than in the secondary *mandis*, the economic measure of discrimination in the former being 12 annas and in the latter Re.1-1-6. If wheat sells at Rs.2·529 per maund(*c*), the total *mandi* charges to the *beopari* and the cultivator in the principal *mandis* would amount to about 7 pies and 11 pies per maund respectively.

The cost of transportation from the village to the nearest principal *mandi*.

160. The cost of transporting cereals from the village to the nearest principal *mandi* would come to about the same as in the case of the secondary *mandis*. A village was assumed to be at a distance of 6 miles from the nearest secondary *mandi*, of which 2 miles were assumed to be *pukka* road. The principal *mandis* generally have *pukka* roads converging to them from several directions and the cost of transportation per mile on these roads—even when they are *kuchcha* roads—tends to be lower, for the reason, amongst others, that their condition is generally better than of those connecting the secondary *mandis* with the surrounding villages. But in view of the fact that cereals are brought for sale to the principal *mandis* from longer distances than to the secondary *mandis*—that is, the "radius of influence" of the principal *mandis* is larger than that of the secondary *mandis*, in general—the average cost, on the whole, of transporting cereals from a village to the nearest (principal) *mandi* may be left unaltered at Re.0-1-1 per maund.

The "standard" difference between prices in the village and the nearest (principal) *mandi*.

161. The total cost to the *beopari* of selling cereals in the nearest (principal) *mandi* thus comes to Re.0-1-8 or Re.0·104 per maund. This is the "standard" difference that should ordinarily exist between the price in the principal *mandi* and the price in those villages which happen to lie within the circle of influence of the latter. Hence the corresponding "standard" price in the village comes to Rs.2·425 per maund.

(*a*) The two averages from the above five *mandis* come to Re.1-6-10 and Rs.2-3-6 per Rs.100 respectively.

(*b*) *Vide* paragraphs 135 and 142.

(*c*) The average price of wheat at Hapur during 1935-36, *vide* Table XIX

The cultivators "maximum"

162. This difference, however, as before, is to be regarded as the *beopari's* " minimum " in settling the price with the cultivator in the village. The cost of transportation and the *mandi* charges borne by the cultivator together amount to 2 annas per maund. To this figure must be added, in order to find the cultivator's " maximum ", the allowance made by the cultivator in favour of the *beopari* on account of abuses of weighment in the *mandi* and the *beopari's* "proper profits" or other considerations(a). The allowance for improper weighment made in the case of secondary *mandis* was 4 pies per maund. The practice of underweighment of the cultivator's grain is not absent in the principal *mandis*, but the loss to the cultivator thereby may be put at a lower figure than in the case of the secondary *mandis*, as such practices tend to be discounted in the principal *mandis* owing to their better organization. The margin allowed in favour of the *beopari* on account of other considerations must, however, remain on about the same level, namely, 5 pies per maund; for while the cultivator in such villages tends to be a little better informed—or, a little less ill-informed—all other factors, which are indeed of greater moment in contributing to this margin, remain practically the same. The total allowance on account of the two items may, therefore, be put at 8 pies per maund, as against 9 pies per maund in the case of the secondary *mandis*. The "maximum" of the cultivator in such villages thus comes to Re.0-2-8 per maund.

The " average " difference between prices in the village and the nearest (principal) *mandi*.

163. Between Re.0-1-8, the *beopari's* "minimum", and Re.0-2-8, the cultivator's "maximum", must lie the "average " difference between the prices in the village and the nearest (principal) *mandi*. The corresponding limits in the case of the secondary *mandis* were calculated at Re.0-1-11 and Re.0-3-1, and the "average" difference was fixed at Re.0-2-10, keeping thereby 11 pies in favour of the *beopari* out of a total range of 14 pies. In villages situated near the principal *mandis*, however, the relative bargaining position of the *beopari* appears to be less strong than in those lying near the secondary *mandis*, as in the case of the former the inflow of urban tendencies in rural economy tends to be more marked and the cultivator seems to be in a slightly better position to haggle out a price with the *beopari*. Of the total range of 12 pies in the present case, therefore, not more than 9 pies may be allotted in favour of the *beopari*. The " average " difference between the prices in the village and the nearest (principal) *mandi* thus comes to Re.0-2-5 or Re.0·151 per maund. If the average price of wheat in the nearest (principal) *mandi* be Rs.2·529 per

(a) Cf. paragraph 145.

maund, the " average " price of wheat in the village would be about Rs.2·378 per maund.

The " actual " difference between prices in the village and the nearest (principal) *mandi*.

164. The *beopari's* "minimum" and the cultivator's "maximum" given in the preceding paragraph remain more or less unchanged when the *harvest* price in the nearest (principal) mandi during 1935-36, namely, Rs.2·448 per maund, is taken as the basis of conversion instead of the annual price during 1935-36, namely, Rs.2·529(*a*). The exact point between these two extremes where an equilibrium between the *beopari's* and the cultivator's bargaining strength is established would therefore be the same as that defined by the "average" difference, that is, Re.0-2-5 per maund. The " actual " price in the village thus comes to Rs.2·297 per maund. Comparing this price with the annual price in the nearest (principal) *mandi* during 1935-36 (namely, Rs.2·529 per maund), the "actual" difference between the prices in the village and the nearest (principal) *mandi* amounts to Re.0·232 or Re.0-3-8·5 per maund.

When the cultivator himself takes his grain to sell in the nearest (principal) *mandi*.

165. If the cultivator himself takes his surplus grain to sell in the nearest principal *mandi*, his marketing expenses would be made up of the cost of transportation (Re.0-1-1 per maund), the *mandi* charges (11 pies per maund), and the loss through underweighment in the *mandi* (3 pies per maund)—a total of Re.0-2-3 per maund. If, however, he sells his cereals in the village, he obtains a price which is lower than the price in the nearest (principal) *mandi* by Re.0-2-5 per maund. The net gain to the cultivator from taking his cereals to sell in the nearest (principal) *mandi*, therefore, comes to 2 pies per maund, which is the same as the corresponding gain when the nearest *mandi* is a secondary *mandi*(*b*).

The advantage to the cultivator when the nearest *mandi* happens to be a principal *mandi*.

166. The "actual" price of wheat in the village comes to Rs.2·140 per maund when the " nearest " *mandi* is a secondary *mandi* and to Rs.2·297 per maund when it is a principal *mandi*. The total advantage to the cultivator when the nearest *mandi* to his village happens to be a principal *mandi* thus comes to Re.0·157 or Re.0-2-6 per maund. It will be interesting to analyse this figure. Of the total advantage of Re.0-2-6 per maund Re.0-2-1, it will be seen, is due to the difference between the harvest prices in the principal *mandi* (Rs.2·448 per maund) and the secondary *mandis* (Rs.2·317 per maund) and the remaining 5 pies to the excess of the " average " difference between the prices in the village and the nearest secondary *mandi* (namely, Re.0-2-10 per maund) over that between the prices in the village and the nearest principal *mandi* (namely,

(*a*) Only the cultivator's " maximum " is reduced from Re.0-2-8 per maund to Re.0-2-7·5 per maund.

(*b*) Cf. paragraph 154.

Re.0-2-5 per maund). And of these 5 pies, 0·5 pie may be ascribed to the better bargaining strength of the cultivator in villages which are in the neighbourhood of a principal *mandi*, about 1 pie to the smaller abuses of weighment and about 3·5 pies to the lower *mandi* charges in the principal *mandis* as contrasted with the secondary *mandis*.

Octroi duties on roads leading to the principal *mandi*.

167. It may, however, be noted that more commonly than not, octroi duties are levied on cereals entering the principal *mandis*, so that the advantages to the cultivator from the economic nearness of his village to a principal *mandi* are, in part, counterbalanced by the octroi duties. Although, as has been indicated before, the octroi duties are not universal and differ widely in the different *mandis* as well as on different cereals and have had to be left out of account by reason of their indefiniteness, it may be pointed out that the most common rate appears to amount to about 6 pies per maund on wheat. Even if this entire amount be set against the advantages accruing to the cultivator from the comparative nearness of a principal *mandi*, a gain of about 2 annas per maund still remains for the cultivator. It is clear therefore that economic nearness of his village to a principal *mandi* as contrasted with a secondary *mandi* invariably results in a net advantage to the cultivator-seller.

The profits of the *beopari* when the nearest *mandi* is a principal *mandi*.

168. The *beopari* appears to be at a disadvantage when the *mandi* nearest to the village in which he buys his cereals is a principal *mandi*. For in such a case, he buys at a price which is lower than the price in the nearest *mandi* by Re.0-2-5 per maund, while his marketing expenses amount to Re.0-1-8 per maund. His rate of profit therefore comes to 9 pies per maund, against the rate of 1 anna per maund when the nearest *mandi* is a secondary *mandi*(a). If he stocks the cereals he buys, and sells them later (at the average *annual* price in the nearest principal *mandi* as contrasted with the average harvest price which is obtained if the grain is sold immediately after buying), his purchase price is Re.0-3-8·5 per maund lower than his sale price, so that he makes a profit of about 2 annas per maund less his stocking expenses(a).

The different prices in the village—their basis and significance : the "actual" price,

169. The differences between the prices in the village and the nearest *mandi* under different conditions have been estimated above. It has been seen that these differences are greatly increased, to the detriment of the cultivator's interests, by two factors, namely, the *mandi* discrimination against the cultivator and his urgent need for cash at the time of harvest. It is as a consequence of his "hurry to sell" that the cultivator

(a) Cf. paragraph 152.

in the village gets what has been termed the "actual" price. If the cultivator were in no hurry to sell his produce soon after the harvest, he would be able to obtain what has been called the "average" price. If, however, only "*mandi* discrimination" be absent, the harvest price in the nearest *mandi* would still be the basis of the price in the village but the difference between the prices in the village and the *mandi* would, at any given time, tend to the "standard" difference. But if both these handicaps to the cultivator be removed, the difference between the prices in the village and the *mandi* would be minimised and the cultivator would get what has been called the "standard" price. The following table gives in a summary form the various differences between the prices in the village and the nearest *mandi* as calculated in the preceding paragraphs :

the "average" price

and the "standard" price.

TABLE XL—*Differences between village and* mandi *prices—Summary*

—	When the nearest *mandi* is a secondary *mandi*	When the nearest *mandi* is a principal *mandi*
	(per md.)	(per md.)
	A. p.	A. p.
"Standard" difference	1 11	1 8
"Average" difference	2 10	2 5
"Actual" difference	4 1	3 8·5

The "actual" difference between the price in the village and the average price in the principal *mandi* in a typical instance—

170. The "actual" difference between the prices in the village and the nearest secondary *mandi* has been estimated at Re.0-4-1 per maund. This represents the difference between the price actually obtained by the cultivator in the village and the average *annual* price in the nearest secondary *mandi*. The annual price in the secondary *mandis* is, however, generally lower than the annual price in the principal *mandi*, the normal difference between the two having been computed at Re.0-2-1·5 per maund(*a*). Therefore the "actual" difference between the price received by the cultivator-seller in the village and the average *annual* price in the principal *mandi* of the region in a typical instance (that is, when the surplus produce of the village flows down to the principal *mandi* of the region through a secondary *mandi*) comes to (Re.0-4-1 + Re.0-2-1·5) or

(*a*) Vide paragraph 113.

Re.0-6-2·5 per maund. It will be seen that the following four factors commonly contribute to this difference: the factors contributing to this difference,

(1) the secondary *mandis* as an intermediate stage for the flow of surplus cereals between the village and the principal *mandi* of the region;

(2) the *beopari* as a middleman between the cultivator in the village and the nearest *mandi;*

(3) the *mandi* discrimination against the cultivator; and

(4) the cultivator's urgent need for cash at the time of harvest—that is, his "hurry to sell".

171. It has been seen that the advantage to the cultivator when the nearest *mandi* to his village happens to be a principal *mandi* amounts to about Re.0-2-6 per maund(*a*). In other words the disadvantage to the cultivator when the *mandi* nearest to his village is a secondary *mandi* comes to Re.0-2-6 per maund. This, then, is the contribution of the secondary *mandis*, as an intermediary between the village and the principal *mandi*, to the total difference of Re.0-6-2·5 per maund between the price actually obtained by the cultivator in the village and the annual price in the principal *mandi* of the region. It will be seen that this is a disadvantage which the cultivator suffers on account of unfavourable georaphical position of his village and which therefore cannot be completely removed. The loss to the cultivator on this account can, however, be reduced from Re.0-2-6 per maund; for, of this amount Re.0-2-1 are due to the difference between the prices in the principal *mandi* and the secondary *mandis* and over 4 pies to comparatively high *mandi* charges (including abuses of weighment) in the secondary *mandis* as compared to the principal *mandi*. It has also been seen that the difference of Re.0-2-1 between the prices in the principal *mandi* and the secondary *mandis* is mainly accounted for by the "*mandi* charges" and the "cost of transportation". The disadvantage to the cultivator from his village being situated in the proximity of a secondary *mandi* (as contrasted with a principal *mandi*) would therefore tend to be reduced as and when the *mandi* charges in the secondary *mandis* are brought more in uniformity with those in the principal *mandis* and the means of transporting cereals between the principal and the secondary *mandis* become more efficient and cheap. The remaining difference, namely of (Re.0-6-2·5—Re.0-2-6) or Re.0-3-8·5(*b*) and their individual contribution.

(*a*) *Vide* paragraph 166.

(*b*) Cf. paragraph 164. This is the "actual" difference when the nearest *mandi* is a principal *mandi*. The corresponding difference when the nearest *mandi* is a secondary *mandi* is Re.0-4-1 per maund. *vide* paragraph 151.

per maund, is the joint contribution of the other three factors, which, it will be seen, admit of complete removal. The individual contribution of each of these three factors to the " actual " difference between the prices in the village and the nearest *mandi* is shown in Table XLI below :

TABLE XLI—*Difference (per maund) between the village price and the* mandi *price* :

Its component parts

Components	When the nearest *mandi* to the village is—	
	secondary *mandi*	principal *mandi*
	A. p.	A. p.
1. *Beopari's* commission	0 2	0 2
2. " *Mandi* discrimination(*a*) " against the cultivator.	0 9	0 7
3. Cultivator's " hurry to sell " ..	1 3	1 3·5
Total ..	2 2	2 0·5
4. " Standard difference " ((i.e. minimum expenses of marketing).	1 11	1 8
" Actual " (i.e. total) difference ..	4 1	3 8·5

" *Mandi* discrimination " and " hurry to sell "—their joint importance.

172. It will be seen from the above table that the cultivator in the village loses about Re.0-1-3 per maund of grain on account of his " hurry to sell " and 9 pies per maund on account of the "*mandi* discrimination" against him. The joint " contribution " of these two factors together thus comes to 2 annas per maund. But if *both* these factors are removed, the bargaining position of the cultivator against the *beopari* in the village would become far stronger than it is at present, and it may not then be at all necessary for him to allow a margin of 3 chhataks per rupee in favour of the *beopari* in the village(*b*). In cases where the nearest *mandi* is a secondary *mandi*, the *beopari's* " minimum " difference has been computed at Re.0-1-11 per maund, and the " average " difference

(*a*) Including " under-weighment of grain."

(*b*) Cf. paragraph 145.

at Re.0-2-10 per maund(a). The disparity between these two figures is based far more on the existence of the above-mentioned two factors than on any other grounds. With the removal of these two factors together the *beopari* as a middle-man would automatically tend to disappear; for, there appears to be no reason why the cultivator should not see his way to dispose of the services of the *beopari* when he has no more to pay in the *mandi* than the *beopari*, when he is not hard-pressed for money at the harvest time and when he knows that selling his grain to the *beopari* in the village would definitely bring him less money for his produce than if he sold it personally in the nearest *mandi*. The joint contribution of these two factors to the difference between the price actually obtained by the cultivator in the village and the annual price in the nearest secondary *mandi* must therefore be regarded as greater than 2 annas per maund. In the practice of rural marketing, it appears, two and two make more than four.

The given differences and the fluctuations in the price.

173. It will have been noted that the differences in the prices in the village and the *mandi*, as worked out above, are based on charges which are assessed partly as a percentage of the quantity of grain sold. It follows that the differences as given above will vary with changes in the prices of cereals. The prices on the basis of which the differences have been calculated have been given at the appropriate places.

Cereals other than wheat

174. The differences between the village prices and the *mandi* prices of other cereals (except rice) tend to be a little less than those relating to wheat. For not only are the rates of octroi duties, where they are levied, commonly the highest for wheat, but the *mandi* charges for the sale of other cereals (except rice) also tend to be less. But this reduction in the total marketing expenses for other cereals is to a degree counter-balanced, except in the case of rice, by the fact that the prices of other cereals are lower than those of wheat, so that the marketing expenses for other cereals per Rs.100 would not be far below those for wheat. In the case of rice, the differences in prices tend to be a little higher than those relating to wheat.

(a) *Vide* paragraphs 139 and 146.

CHAPTER IX

Prices at Different Times

The difference between prices due to "time utility"—

175. Prices of the same commodity differ at different places as well as at different times. The differences in prices at different places have already been considered. The differences in prices due to "time utility", however, present a little complex problem; for the reasons accounting for them are various and not unoften have divergent tendencies. The main

the various forces determining it

factors which lead to differences between prices at different times may be summarised as follows:

(1) the cost of stocking during the period;

(2) the prospective, and to a smaller extent the existing, conditions of supply and demand in the market at the time of sale and the degree of accuracy of speculation; and

(3) exceptional or accidental causes of local, national or international importance.

and the direction of their individual action:

"cost of stocking" and "diminished supply," "speculation" or "prospective supply"

and "exceptional causes."

176. The "cost of stocking" and "existing supply" are factors which would tend to raise the price continually after the harvest time. For, the cost of stocking would ordinarily increase, and the existing supply would decrease, with the passage of time. If, therefore, these two were the only factors determining the difference between prices at different times, the prices of grain would always be lowest at the harvest time and would thereafter rise throughout the year. As it is, there are disturbing influences. Speculation, it has been seen[a], plays a very important part in the determination of the price, and may either add to or check the joint effect of the above-mentioned two factors. Besides, seasonal variations in the price may be completely submerged under secular changes, and furthermore, exceptional influences like depressions may produce effects of far greater dimensions than the other factors taken together. For example, the harvest price at Hapur during 1933-34 was Rs.3·057 per maund[b] whereas the annual price during that year was lower, namely Rs.2·547 per maund.[c] This was mainly on account of the agricultural depression which lowered prices; the tendency of the price to rise after harvest time as a result of the first two factors was more than counterbalanced by the effects of the depression in 1933. Therefore while the two factors—"cost of

(a) *Vide* paragraph 94.
(b) *Vide* Table XXXVII.
(c) *Vide* Table XIX.

stocking " and " existing supply "—tend to raise the price after the harvesting period, the other two factors—" speculation " or " prospective supply " and " accidental causes "—may work in either direction. If their " resultant " (net effect) acts in the same direction as the first two factors, the difference in prices at harvest time and thereafter would be accentuated, while if this " resultant " acts in an opposite direction, it may check or counterbalance or more than counterbalance the joint effect of the first two factors.

Speculation tends to neutralize the effect of " diminished supply. "

177. The common assumption by theorists that the price of grain is always lowest at harvest time and thereafter gradually rises throughout the year is not always correct in practice. There is, no doubt, a tendency for the price to follow this rule but the tendency may be offset by other factors. It has been seen that speculation on the prospective supply is an important factor in determining prices now-a-days. The main function of speculation is to "even out," as far as possible, the differences in the prices at different times, and the more developed speculation becomes, the smaller will be the net effect of factors which tend to raise the price continually after harvest time. For, the business of speculators is to take advantage of any expected rise (or fall) in the price. If, for example, the price is expected to rise, the speculators buy up stocks at the existing low prices in the hope of selling them later at comparatively high prices. But in the very act of doing so they minimise the difference which is to be the source of their profit. For, while on the one hand, they tend to raise the existing price by their demand, on the other, the stocks they buy, with a view to selling at a later date, increase the supply at that date and thereby tend to lower the price(*a*). It is thus that speculation tends to smoothen the fluctuations in prices. The more perfect the speculation, the nearer to each other, *ceteris paribus*, would prices at two different times tend to be, and in a perfectly speculative market, the prices at two different times would tend to differ by no more than the very minimum, namely, the cost of stocking during that period. The tendency of the price to rise progressively after the harvest time as an effect of continually diminishing supply is thus largely offset by speculation. The effects of prospective and existing conditions of supply and demand therefore tend to be neutralized(*b*). And since the effects of accidental or exceptional

and the effect of " exceptional causes " is, ex-hypothesis, not normal;

(*a*) It is, however, characteristic of professional speculators to be content with a very small *rate* of profit per transaction provided it is accompanied by a considerable "base", i.e., volume of transaction.

(*b*) Factor (2) in paragraph 175.

the cost of stocking is the "normal" difference.

causes, by their very nature, can neither be determined with a reasonable degree of accuracy nor be considered normal, the " normal " difference between the prices of cereals at two different times may be taken to be the cost of stocking grain during that period.

The elements of the " cost of stocking."

178. The different elements constituting the cost of stocking are—

(1) rent for the stocking-place,

(2) wages of labour required for putting the grain in the stocking-place and taking it out,

(3) interest on the money value of the grain,

(4) effect of stocking on the quality and quantity of grain, and

(5) charges for insurance against risk of (*a*) wholesale damage to grain and (*b*) heavy fall in prices.

The " cost of stocking " would thus vary according to the length of the period of storage and the method of stocking.

The period between harvest and sowing times.

179. The length of the period intervening between harvest and sowing times would differ with different cereals. Wheat, for example, is harvested from March to May and the inflow of wheat from the villages into the *mandis* begins about the middle of April and ceases with the beginning of the rains, that is, about the middle of June. Most of the stocking thus takes place during the month of May. The sowing time for wheat is from October to December. The period intervening between stocking and sowing times thus averages about six months. Therefore, for the purpose of determining the difference between prices at harvest and sowing times, the cost of stocking for about six months has to be worked out.

The method of stocking : the *khatti* and the *kotha*.

180. The most common receptacles for the storage of cereals in the principal *mandis* are *khattis* (ground-pits) and *kothas* (rooms). Cereals other than wheat, gram and barley are rarely stocked in *khattis*. Grain stocked in *kothas* is generally filled in bags, but sometimes no bags are used. *khattis* can stock large quantities of grain and can stay for a long period of time, while *kothas* can be used for only comparatively small quantities and a short period of time. Besides, *khattis* prove more advantageous to the stockist as not only is their rent lower than that of the *kothas* but the loss in weight of the grain stocked in *khattis* is also less. On the other hand, grain stocked in *kothas* is preferred by the consumers as its quality is less damaged by stocking. In addition to this consideration, there are other points in favour

of *kothas*. Apart from the fact that cereals like rice and *bajra* cannot be stocked in *khattis*, the charges incurred in stocking the grain in *khattis* and in taking it out of it are greater than the corresponding charges in the case of the *kotha*. Moreover, the *khatti* stands as one indivisible whole : it must be filled up in full; for otherwise insects breed in the space left and may do considerable damage to the quality as well as the quantity of the grain. *Kothas*, on the contrary, can keep well even small quantities of grain. Besides, grain stocked in *kothas* may be sold in small quantities at will. On account of these considerations *khattis* are generally used when cereals (wheat, barley and gram) have to be stocked in large quantities or for a long period of time, while *kothas* are preferred for comparatively small quantities and short periods of time. In the big principal *mandis* like Hapur, therefore, by far a larger quantity of grain (wheat and gram) is stocked in *khattis*. *Khattis* are, however, not suitable in places where the water-level is high, e.g., in Saharanpur, Pilibhit, Budaun and Ujhani (Budaun), or where the ground is stony so that water percolates, e.g., in Dehra Dun. Nor are *khattis* used in *mandis* where grain is not stocked throughout the year but only for 6 or 7 months or a still shorter period of time. In this group fall most of the secondary *mandis* like Baraut (Meerut), Khatauli (Muzaffarnagar), Dhampur (Bijnor), Amroha (Moradabad), Etah and Khurja (Bulandshahr). *Khattis* are, however, in extensive use in the more important *mandis* and specially where wheat and gram are grown in abundance, for example, in addition to Hapur, Ghaziabad (Meerut), Meerut, Shamli (Muzaffaranagar), Deoband (Saharanpur), Chandausi (Moradabad), Hathras (Aligarh) and Sikandrabad (Bulandshahr) *Khattis* for wheat, gram and barley and *kothas* for the other cereals may be taken to be the representative stocking-places in the province.

181. Cereals are stocked most generally by the *pukka* *arhatis*, who also commonly own the *khattis* or the *kothas*, either on their own behalf or on behalf of their clients. When the grain is stocked by the owner of the *khatti* or the *kotha* on his own behalf, as is more common, the question of rent does not arise in practice, although for the purpose of calculating the cost of stocking it has to be taken into account all the same. In such cases the rental value of the *khattis* or *kothas* has to be considered and their rent understood to be what would have been paid for their use if they had been rented. In Hapur a grain-pits tax is levied on *khattis* at the following

Rent of the stocking place—

rates, which give an idea of the minimum rent chargeable for the use of the *khattis* :

TABLE XLII—*Grain-pits tax at Hapur*

Capacity of the *khatti*	Amount of annual tax
	Rs.
Below 500 maunds	3
500 maunds and over but below 700 maunds	5
700 maunds and over	7

average rent.

182. The charges for letting *khattis* and *kothas* differ from *mandi* to *mandi* as also within the same *mandi* according to the type of the *khatti* or the *kotha*. For example, the rent of a *pukka khatti* is naturally higher than that of a *kachcha khatti*, and similarly in localities where *khattis* and *kothas* are more liable to damage, the rents are comparatively low. The rent most commonly charged comes to a little over Re.1 per 100 maunds per annum for an ordinary *khatti* and to about Rs.3 per 100 maunds per annum for an ordinary *kotha*. The rent for a *khatti* is due yearly and for a *kotha* monthly, and the stockist is free to keep the *khatti* or the *kotha* occupied as long as he pleases provided that he pays the rent regularly at the end of each year or month respectively. The rent for a *khatti* has to be paid for the whole year even if the *khatti* is vacated earlier, unless an agreement to the contrary has been arrived at. In cases of such agreements, however, the rate of rent tends to be a little higher.

Labour charges.

183. Before a *khatti* is filled up, its bottom has to be covered with husk and its walls lined with wheat stalks or such other material, and after it has been properly filled up, its mouth has to be carefully closed. Again, when it is opened, a man has to get in and fill the grain in baskets, which are pulled up by another man outside the *khatti*. The grain has then to be filled up in bags after due exposure to sun and air. These operations involve expenses, which vary according to the type of the *khatti* and its distance from the place of purchase and sale in the *mandi*. For instance, it was pointed out in one of the important *mandis* for cereals in west United Provinces that the *khattis* of that place are situated at a distance of 3 or 4 furlongs from the *mandi* so that it costs about as much as 4 chhataks per rupee to fill a *khatti* and about an equal amount to get the grain out of

it, with the result that *kothas* are given preference over *khattis* and very few *khattis* are used for stocking. The average cost of filling a *khatti* and taking grain out of it appears to amount to about 3 pies per maund. The corresponding expenses for the *kotha* cannot be put down at more than 2 pies per maund, for most of the charges for the work done may, in general, be supposed to be covered by the usual *palledari*.

Interest on the capital invested.

184. Advances of money against grain stocked in *khattis* or *kothas* are generally available from banks at rates which naturally vary from year to year and from place to place. The banks commonly advance about 75 per cent. or a little less of the estimated money-value of the stock. The most common rate of interest appears to be Re.0-9-4 per Rs.100 per month or 7 per cent. per annum. The rest of the money has to be invested by the stockist himself. If, however, the grain has been stocked by a *pukka arhati* on behalf of one of his clients, he may demand from his client 25 per cent. of the money value of the stock or more or less according to his credit or their personal relations, or he may invest his own money on behalf of his client and charge interest from him at the current *mandi* rate. In either case the stockist has to suffer the interest charges. The most common *mandi* rate of interest, it has been seen,(a) is 10 annas or 12 annas per Rs.100 per month, that is, 7·5 or 9 per cent. per annum. This is the rate of interest which has to be computed on 25 per cent. of the money-value of the grain stocked. The resultant difference in the average rate of interest is, however, insignificant. For the purpose of calculating the normal cost of stocking, therefore, the average rate of interest may be taken to be 7 per cent. per annum.

The effect of stocking on the quality and quantity of grain :

185. The measurement of the effect of stocking on the quality and quantity of grain presents a complex problem, as the net effect is the result of several factors which act in different directions and whose individual effect is not exactly known. For instance, it was stated by some stockists that the grain stocked is liable to a greater damage or an earlier attack from insects if an easterly wind blows during the months of *Baisakh* and *Jeth*(b), that is, during the period when the *khattis* and *kothas* are filled, than if a westerly wind blows during those months. Again, it was asserted by some

(a) Paragraph 54.

(b) The Hindu months do not always correspond with the same months of the English calendar. In 1935 the months of *Baisakh* and *Jaith* coincided with the period from the 19th of April to the 16th of June

businessmen at Saharanpur that the local wheat is more susceptible to an attack from insects than the Punjabi *kathia* (*sharbati*). The truth of these statements, which are based on experience, requires scientific verification by research and investigation. It was also pointed out in some places that wet grain or grain which is not fully ripe is more liable to attack from insects. The reason for this is apparently the existence of moisture in the grain, which invites insects.

qualitative measurement;

186. The various factors affecting the quality and quantity of the grain stocked may be summarised in a single word "moisture" and their net effect may be considered as the resultant of two actions, namely, (1) the direct effect of moisture on the quantity and quality of grain in stock, and (2) the damage done to the grain by insects (an indirect effect of moisture). The effect of stocking is naturally different on *khattis* and *kothas*. The *khattis* are not only less exposed to the action of moisture than the *kothas* but are also comparatively safe from a heavy attack from insects. But whereas the quantity of grain in the *khattis* tends to increase, the quality deteriorates. The *kothas*, on the other hand, maintain a better quality but tend to a loss in the weight of grain. The general qualitative effect of "moisture" on the quantity of the grain in stock may be summarised as follows:

(1) up to the beginning of rains the weight tends to decrease due to drying up of moisture in the grain;

(2) during the rainy season the weight increases;

(3) towards the end of the rainy season grain tends to be attacked by insects and such an attack sets in a tendency to decrease the weight;

(4) after the rains two tendencies work together to decrease the weight, namely (*a*) gradual drying up of moisture in the grain picked up during the rainy season and (*b*) attack from insects;

(5) during the winter the cold tends to resist to a certain extent the drying up of moisture in the grain, so that the rate of decrease in the weight due to drying up of moisture tends to be retarded, but at the same time the decrease in weight due to attack from insects tends to be accelerated—this acceleration probably more than counterbalances the retardation, so that the rate of decrease, on the whole, tends to be accelerated;

(6) after the end of the winter and until the grain is taken out, both the tendencies noted in section (4) above work at full speed, so that the rate of decrease tends to be greatest during this period.

187. The quantitative effect of stocking on grain is also different in *khattis* and *kothas*. It has been indicated that the weight of grain stocked in *khattis* tends to increase but that its quality generally deteriorates. In *pukka khattis*, however, no appreciable increase in the weight takes place nor is the damage to the quality significant. In *kachcha khattis* the effect on grain depends to a considerable extent upon the method of stocking. If the bottom of the *khatti* is well covered with husk and the walls heavily lined with wheat stalks or such other things, the increase in weight tends to be less as also the damage to the quality. Newly-built *khattis* tend to increase in weight more than old ones, but at the same time the damage to quality is, naturally, greater. Accordingly in some *mandis* a discount is allowed to the buyer on grain stocked in new *khattis*. Ordinarily, increases in the weight of the grain stocked in *khattis* are accompanied, and not unoften counterbalanced, by progressive deterioration in the quality. The increase in the weight of grain stocked in *khattis* was estimated by leading businessmen in the *mandis* of the United Provinces to range from 1 per cent. to 3 per cent. up to *Phagun*,(a) but at the same time it was stated that if account be taken of the damage to the quality of the grain in general —*khatti* wheat generally develops a peculiar smell— and to the portion of it which lies in immediate contact with the bottom and the walls in particular, the gain in weight is in 90 per cent. cases counterbalanced by the deterioration in quality. It appears from a study of the available data that grain stocked in *khattis* increases, irrespective of the effect on quality, by about 1 per cent. in a stocking year (that is, from about the middle of May to about the middle of March), and that the damaged quantity—taking into account also the effect on the quality in general—may be computed at about 2 per cent. This damaged quantity commonly sells at about half its original price, so that the effect of stocking in a year, considering both quality and quantity together, is neutralized.

quantitative measurement—

effect of stocking in *khattis*

or a year,

188. The effect of stocking in *khattis* up to the sowing time has to be estimated in the light of the general qualitative propositions laid down in paragraph 186. The greatest increase in weight is obtained in *Bhadon* (b), that is, at the end of the rainy season, whereafter the tendency to decrease sets in. Considering the information obtained from the different *mandis*, it appears that the average increase in the weight of grain at the end of the rainy season would amount to about

and up to the sowing time;

(a) In 1935, the month of *Phagun* coincided with the period from the 19th of February to the 20th of March.

(b) In 1935, the month of *Bhadon* coincided with the period from the 15th of August to the 12th of September.

2 per cent. This increase is reduced to about 1 per cent. during the six months from the middle of September to the middle of March. Taking into account the damage to the quality of grain stocked up to the sowing time and the general propositions in sections (4), (5) and (6) of paragraph 186, the net effect of stocking grain in a *khatti* up to the sowing time, that is, about the middle of November, comes to an increase of about 1 per cent. in the quantity of the grain.

effect of stocking *kothas*

189. Compared to the *khattis*, the *kothas* are more exposed to the effects of moisture and therefore more open to attack from insects. Consequently the damage to the quantity of grain stocked in *kothas* tends to be greater. The damage in

for a year,

cool *kothas* is, however, less than that in warm ones. According to the estimates given by leading stockists in the *mandis* of the United Provinces, the loss in weight of grain in a year ranges from 1 per cent. to 3 per cent. in comparatively cool *kothas* and from 2 per cent. to 5 per cent. in warm *kothas*. The range of loss in weight of grain stocked in *kothas* in general for a year therefore lies from 1 per cent. to 5 per cent. Considering also the loss in grain on account of rats, etc., the average loss most commonly incurred appears to be about 2·5 per cent.

and up to the sowing time.

190. The effect of stocking grain in *kothas* up to sowing time (that is, about the middle of November) may be estimated in the light of paragraph 186, as follows:

(1) decrease in weight up to the beginning of rains—about 4 chattaks per bag or a little less than 2 chattaks per maund;

(2) increase during the rainy season—the maximum increase may be as high as 2 or 2½ seers per maund, but an increase of about 1¼ seer per maund appears to be quite common;

(3) net increase at the end of the rainy season—about 1 seer and 2 chattaks per maund;

(4) The average loss in weight in a year has been computed at 2.5 per cent. or about 1 seer per maund Therefore during the 6 months, from the end of the rainy season to the end of the stocking year, the loss in weight amounts to about 2 seers and 2 chattaks per maund. If, in view of the propositions laid down in sections (4), (5) and (6) of paragraph 186, the decrease in weight during about 2 months between the end of the rainy season and the sowing time be taken at about 8 chattaks per maund, the net increase in the weight of grain stocked in *kothas* up to the sowing time comes to about 10 chattaks per maund or about 1.56 per cent.

Insurance charges.

191. The risk involved in stocking is two-fold, namely, (1) of a heavy fall in prices and (2) of wholesale damage to the grain, e.g., by fire in *kothas* or by water in *khattis*. No systematic arrangements for insurance of stocks exist in the *mandis* of the United Provinces. It will, however, be noticed that speculation offers to the stockists a sort of insurance against heavy decline in prices in respect of *khattis* or *kothas* which have been sold by a "forward" contract. As to insurance against wholesale damage to grain by fire, water, theft, etc., it was pointed out in a few *mandis* that the local banks from whom advances of money against stocks were obtained insisted on the stocks being insured before the advances were given, and that in some cases, an additional fee of 2 annas per Rs.100 worth of grain per month was charged to cover this risk. The insurance charge, if there be any, would naturally differ for different stocking places and localities. *Khattis* are comparatively safe from fires or thefts, but they run the risk of complete damage to grain from water if the latter finds its way into a *khatti* without the knowledge of the stockist for a sufficient period of time. In the absence of any practical instances, a charge of 2 annas per Rs.100 per month, that is, 1·5 per cent. per annum, appears to be a sufficient cover against such risks in respect of both the *khattis* and the *kothas*.

Total cost of stocking.

192. The effects of the various factors contributing to the cost of stocking have been individually and severally assessed. The normal cost of stocking may therefore be calculated by summing up the various charges, as follows:

TABLE XLIII—*Normal cost of stocking*:

Its component parts

Items of cost—	Rate of cost		Cost per maund (*a*)			
			for 6 months (*b*)		for 1 stocking year (*c*)	
	for *khattis*	for *kothas*	*Khattis*	*Kothas*	*Khattis*	*Kothas*
			A. p.	A. p.	A. p.	A. p.
Rent ..	Re.1 per 100 maunds per annum.	Rs.3 per 100 maunds per annum.	0 1·9	0 2·9	0 1·9	0 5·8
Labour charges	3 pies per maund	2 pies per maund	0 3·0	0 2·0	0 3·0	0 2·0
Interest ..	7 per cent. per annum.	7 per cent. per annum.	1 5·0	1 5·0	2 10·0	2 10·0

(*a*) Based on the average price of grain being taken at Rs.2,529 per maund.
(*b*) *viz.*, from about the middle of May to about the middle of November.
(*c*) *Viz.*, from about the middle of May to about the middle of March.

Items of cost	Rate of cost for *khattis*	Rate of cost for *kothas*	Cost per maund (*a*) For 6 months (*b*) *Khattis*	Cost per maund (*a*) For 6 months (*b*) *Kothas*	Cost per maund (*a*) for 1 stocking year (*c*) *Khattis*	Cost per maund (*a*) for 1 stocking year (*c*) *Kothas*
			A. p.	A. p.	A. p.	A. p.
Effect of stocking on grain.	1 per cent. increase up to sowing time; nil during the year.	1 56 per cent. increase up to sowing time; 2·5 loss during the year.	—(0 4·9)	—(0 7·6)	0 0·0	1 0·1
Insurance against risk	1·5 per cent. per annum.	1·5 per cent. per annum.	0 3 6	0 3·6	0 7·0	0 7·0
		Total ..	1 8·6	1 5·9	3 9·9	5 0·9

The normal difference between prices at harvest and sowing times—

193. The normal cost of stocking between harvest and sowing times thus comes to about Re.0-1-9 per maund for *khattis* and Re.0-1-6 per maund for *kothas*. It has been pointed out that no cereals other than wheat, gram and barley are ordinarily stocked in *khattis*. Hence the normal difference between prices at the harvest and sowing times may be taken to be Re.0-1-9 per maund for wheat, gram and barley and Re.0-1-6 per maund for other cereals. For the purpose of comparison with the actual difference, the harvest prices of wheat at Hapur during the last three years, given in Table XXXVII, are reproduced in Table XLIV below along with the sowing and the annual prices at Hapur during the same years. The differences between sowing and harvest prices as well as those between sowing and annual prices are also worked out. The sowing prices represent the arithmetic mean of the weekly wholesale prices during the period from the 15th of October to the 15th of December.

wheat, barley and gram, and and other cereals.

TABLE XLIV

Harvest, sowing and annual prices of wheat at Hapur

(1933—36)

Comparison of normal difference with actual differences:

Year	Harvest price	Sowing price	Annual price	Difference (per maund) between— sowing and harvest prices	Difference (per maund) between— sowing and annual prices
1	2	3	4	5	6
	(Rs. per maund)			As. p.	As. p.
1933-34 ..	3·057	2·271	2·547	—(12 7)	—(4 5)
1934-35 ..	2·271	2·302	2·314	0 6	—(0 2)
1935-36 ..	2·448	2·734	2·529	4 7	3 3
1933-36 ..	2·592	2·436	2 463	—(2 6)	—(0 5)

(*a*) Based on the average price of grain being taken at Rs.2·529 per maund
(*b*) *Viz.*, from about the middle of May to about the middle of November
(*c*) *Viz.*, from about the middle of May to about the middle of March.

194. The deviations of the figures in column (5) of the above Table from the normal figure of Re.0-1-9 provide a direct measurement of the disturbing effect of extraordinary or exceptional factors during the corresponding year. For example, a negative quantity appears in column (5) against the year 1933-34; the harvest price in this year was higher than the sowing price (as well as the annual price). This shows the result of the overwhelming disturbance in the seasonal variations in the price of wheat caused by the depression, which generated a downward trend of prices. In the years 1934-35 and 1935-36 the harvest prices were lower than the sowing prices, but a comparison of the figures in column (5) with the normal difference worked out above indicates that the sowing price was a little too low in 1934-35 and a little too high in 1935-36. The average figures for the three years 1933—36 are unduly affected by the abnormal character of the year 1933-34.

the deviations measure the effect of disturbing actors.

195. The harvest price, it is known, is normally lower than the annual price. It will be interesting to obtain an idea of the "normal" relation between the sowing price and the annual price. Since the effects of abnormal or exceptional factors, by their very nature, cannot be calculated, such a relation can only be obtained for a year in which the price is lowest at the harvest time and the fluctuations in the price are regular and uniform. The "cost of stocking" is a factor which would tend to continually raise the price during the stocking period, and as long as "speculation" neutralizes the effect of variations in supply so that cost of stocking remains the only factor determining the difference between prices at different times(*a*), the price would tend to rise continually throughout the year. It has, however, been pointed out(*b*) that with the beginning of the calendar year speculation begins to play an increasingly important part and that during the months of February and March it becomes the decisive factor in determining the price of wheat. The price of wheat may therefore be supposed to be normally at its highest level in January, after which the desire to clear off the stocks in view of the coming crop and the accelerating rate of damage to the grain in stocks(*c*) become a more important influence. Thereafter there is a tendency for the price to fall until it reaches its old (lowest) level in May. The rise in price recorded in eight months, from June to January, has therefore to be traced back by a decline in four months, from February to May, so that the average rate of decline

The relation between sowing and annual prices—

(*a*) Cf. paragraph 177.
(*b*) *Vide* paragraph 91.
(*c*) Cf. paragraph 186, section (6).

may be taken to be twice the average rate of rise. Assuming that the rate of monthly rise and fall is uniform, the course of the price during the year, beginning from May, may be algebraically illustrated as follows:

May	*June*	*July*	*August*	*September*	*October*
(100)	$(100+x)$	$(100+2x)$	$(100+3x)$	$(100+4x)$	$(100+5x)$
November	***December***	***January***	***February***	***March***	***April***
$(100+6x)$	$(100+7x)$	$(100+8x)$	$(100+6x)$	$(100+4x)$	$(100+2x)$

The harvest price, being the average of prices during April, May and June, would therefore be represented by $\frac{(100+2x)+(100)+(100+x)}{3}$ or $(100+x)$, which is the price in June. The sowing price, being the average of prices during October, November and December, would be represented by $\frac{(100+5x)+(100+6x)+(100+7x)}{3}$ or $(100+6x)$, which is the price in November; and the annual price, being the average of the twelve monthly prices, comes to $(100+4x)$, the price in September. The difference between the sowing and harvest prices thus amounts to $5x$, that between the sowing price and the annual price to $2x$, which is 2/5 of the former difference. If the difference between the sowing and harvest prices normally amount to Re.0-1-9 per maund, the "normal" difference between the sowing price and the annual price should be 8·4 pies per maund. This difference, it will be seen, will vary directly with the difference between the sowing and harvest prices.

the "normal" difference between sowing and annual prices,

and its comparison with the actual difference.

196. The difference between the sowing price and the annual price of wheat at Hapur during 1935-36 comes, from Table XLIV above, to Re.0-3-3 per maund or Re.0·205. This difference, however, includes the effect of many disturbing factors. It was noted in paragraph 194 above that the sowing price in 1935-36 was a little too high. The harvest price in 1935-36 was Rs.2·448 per maund. Adding to this price the "normal" difference between the sowing and the harvest prices, namely Re.0-1-9 or Re.0·109 per maund, the "normal" sowing price in 1935-36 comes to Rs.2·557 per maund. The annual price in 1935-36 was Rs.2·529 per maund. The difference between this "normal" sowing price and the actual annual price therefore comes to Re.0·028 or 5·4 pies per maund. The deviation of this difference from the normal difference of 8·4 pies, namely 3·0 pies per maund, measures the deviation of the actual fluctuations in the monthly prices during 1935-36 from a perfectly regular and uniform course of prices.

Cost of stocking in the secondary *mandis*.

197. It is clear that the cost of stocking would differ from *mandi* to *mandi;* the figure of Re.0-1-9 per maund represents only the "normal" average cost of stocking in the

principal *mandis* of the United Provinces as a whole. The cost of stocking in the secondary *mandis* of the Province, in general, would probably be slightly higher. The secondary *mandis* have, however, a choice between stocking grain and bearing the expenses thereof, and importing the grain from the principal *mandi* as and when required. The choice has evidently to be decided by a comparison between the cost of stocking locally and the expenses of importing grain from the principal *mandi* plus the cost of stocking in the principal *mandi*. If these latter are higher than the local cost of stocking, the *mandi* would most probably stock its own grain. The choice has therefore to be made according to the circumstances of each particular case.

Harvest and sowing prices in the village—

198. The harvest and sowing prices in the village move in accordance with the fluctuations in those prices in the nearest *mandi*, but the direction or the algebraic sign of the difference between the prices in the village and the nearest secondary *mandi* is different at harvest and sowing times. The price at the harvest time is the cultivator's "sale price", at the sowing time it is his "purchase price." It has been seen that the harvest price in the village is equal to the harvest price in the nearest *mandi minus* the "average" difference between the prices in the village and that *mandi*; at sowing time, this "average" difference has to be *added* to the price in the nearest *mandi* to obtain the price in the village. More than this, the difference between the prices in the village and the nearest *mandi* tends to be greater at the time of sowing than at the time of harvest. The cultivator in the village sells his produce at the time of harvest in order to get money to pay to his creditors. The creditor's pressure probably compels him to sell his produce to him at a rate which is a little higher than the current rate(a). But if the creditor demands a rate which in his opinion is unreasonably high, he has the option to take his grain to sell in the nearest *mandi* at the risk of losing the patronage of his creditor. His position is, however, a little more difficult at the time of sowing when he wants the grain for the purpose of sowing. Most probably he has not got the money to buy it; he has therefore got to borrow it(b). The *mandi* in this case is of little use to him, for the *mandi* people would not lend him the seed. They do not know the cultivator intimately, and even if some of them do, they realize fully well that lending to the cultivator is a business with no small risk. The cultivator lives at a distance from the *mandi* so that they cannot easily

the difference between prices in the village and the nearest *mandi* is greater at the sowing time than at the harvest time.

(a) Cf. paragraph 124.
(b) Cf. paragraph 122.

keep in constant touch with him. His security for repayment of the borrowed seed—practically always, the crop for which he borrows the seed—is unsatisfactory as it is highly uncertain, depending to a large extent on the vagaries of nature. At sowing time, therefore, the cultivator has no option but to borrow the seed from the *sahukar*. Unlike the *mandi* people, the *sahukar* knows the cultivator only too well; he lives in the same village as the cultivator or very near it and can keep a close watch on the cultivator and his crops, can make as many calls on his debtor as are necessary and in addition, occupies a position in the village which makes it comparatively easy for him to secure the repayment of the loan. Besides, lending to the cultivator is his business and he can afford to take the risk involved therein provided, of course, he is sufficiently remunerated. Shrewd enough to take the fullest advantage of his monopolistic or semi-monopolistic position, the *sahukar* in many cases takes an account of the risk involved and the cost of collection not only in the rate of interest but also in the rate at which the value of the grain lent is reckoned. As at the time of harvest(*a*), so also at the time of sowing the cultivator suffers a double disadvantage on account of his indebtedness.

(*a*) Cf. paragraph 124.

APPENDIX

[Part (A) of this Appendix is intended to bring the figures given in the body of the Bulletin up to the end of March, 1937. Part (B) is devoted to a brief study of these new figures with a view to co-ordinate them with the main conclusions arrived at in the Bulletin.]

Part (A)

TABLE I (*p.* 3)

Area sown (total and under cereals) in the United Provinces

(in thousand acres)

Year	Total area sown in the United Provinces	Total area under "food-grains and pulses".	Area under—							Cereals, total
			Wheat	Rice	Gram	Barley	Jowar	Bajra	Maize	
1936–37	44,385	37,414	7,484	6,641	6,445	4,060	2,122	2,046	1,965	30,763

TABLE II (*p.* 5)

Yield of cereals in the United Provinces

(in thousand tons)

Year	Yield of—							Total yield of cereals
	Wheat	Rice	Gram	Barley	Jowar	Bajra	Maize	
1936–37..	2,532	2,025	1,917	1,558	426	372	534	9,364

TABLE III (*p.* 7)

External Trade of the United Provinces in cereals

(in thousand tons)

Year	Exports of—			Imports of—			Total trade in—		
	Grain pulse and flour	Wheat and wheat flour	Rice	Grain pulse and flour	Wheat and wheat flour	Rice	Grain pulse and flour	Wheat and wheat flour	Rice
1936–37 ..	510	189	30	506	96	255	1,016	285	285

TABLE IV (*p.* 12)

Foreign Trade of India in Wheat

(in thousand tons)

Year	Exports	Imports	Net exports
1936–37 .	232	0	+ 232

TABLE V (*p.* 12)

External Trade of the United Provinces in Wheat and Wheat Flour

(in thousand tons)

Year	Exports	Imports	Net exports
1936–37 ..	189	96	+93

TABLE VI (*pp.* 20–22)

Monthly Wholesale Prices of Wheat at Hapur and Karachi

1936–37	Prices at Hapur(*a*) (Rs. per maund)	Prices at Karachi(*b*) (Rs. per candy)
April	2·422	24·000
May	2·547	22·875
June	2·578	23·500
July	2·745	25·813
August	3·073	26·750
September	2·995	28·875
October	3·089	29·875
November	2·984	28·375
December	3·208	31·875
January	3·458	31·000
February	3·339	31·125
March	3·375	34·500

(*a*) Prices of "ready khatti"—by courtesy of The Mahavir Beopar Mandal, Ltd., Hapur.

(*b*) Prices of "white wheat, 5 per cent. barley, 3 per cent. dirt, 30 per cent. red"—*The Indian Trade Journal.*

TABLE VII (*p.* 22)

——	Hapur	——	Karachi
Average price (Rs. per maund)	2·949	..	3·455
Standard deviation	0·320	..	0·388
Coefficient of variation	10·851%	..	11·215%
Coefficient of correlation (*r*)	..	+0·932	..
Probable error of *r*	.	±0·027	..

TABLE VIII (*p.* 23-24)

Monthly Wholesale Prices of Wheat at London, Calcutta and Bombay

1936–37	London prices(*a*)	Calcutta prices(*b*)	Bombay prices(*c*)
	(Shillings)	(Rupees)(*d*)	(Rupees)
April	30·750	3·500	4·563
May	28·500	3·250	4·313
June	30·875	3·359	4·375
July	36·875	3·688	5·000
August	38·500	3·625	4·938
September	41·000	3·813	5·313
October	41·750	3·969	5·313
November	39·625	3·938	5·188
December	46·000	4·266	5·750
January	41·750	4·500	5·750
February	42·500	4·250	5·625
March	48·250	4·250	5·938

(*a*) Shillings per 480 lb. of Australian wheat (cargoes), c.i.f., parcels, shipping current month—International Review of Agriculture, Rome.
(*b*) Rupees per maund, "club no. 2"—*The Indian Trade Journal.*
(*c*) Rupees per cwt., "Delhi no. 1, white pessy"—*The Indian Trade Journal.*
(*d*) Prices at Calcutta—
January, 1936—Rs.3·500.
February, 1936—Rs.3·375.
March, 1936—Rs.3·438.

TABLE IX (*p.* 25)

———	London	Karachi	Calcutta	Bombay
Average price (Rs. per md.).	4·329	3·455	3·833	3·736
Standard deviation ..	0·614	0·388	0·374	0·359
Coefficient of variation	14·177%	11·215%	9·757%	9·602%
Coefficient of correlation (*r*) between prices at London and———.	..	+0·970	+0·887	+0·962
Probable error of (*r*) ..	..	±0·012	±0·043	±0·015

TABLE XII (*p.* 29)

Monthly Freight Rates on Wheat from Karachi and Australia to London

1936–37	Freight from Karachi to London (Shillings per 18 cwt.)	Freight from Australia to London (Shillings per long ton)
April	22	27
May	20	n.q.
June	19	28/ n.
July	21	28
August	25	28
September	26	27
October	25	n.q.
November	25	n.q.
December	34	31/9 n.
January	33/6	37/6
February	26	39
March	33	41/3
Average, 1936-37	25/9·5	31/11

n.q.=not quoted.
n.=nominal.

TABLE XIV (*p.* 34)

Monthly Wholesale Prices of Wheat at Lyallpur(a)

1936–37	Rs.
April	2·375
May	2·328
June	2·422
July	2·719
August	2·906
September	3·094
October	3·188
November	3·016
December	3·344
January	3·375
February	3·344
March	3·375

(*a*) Prices in rupees per maund of "white wheat, 1½ per cent. dirt, 2 per cent. barley"—*The Indian Trade Journal.*

TABLE XV (*p.* 34)

(1936–37)

	Lyallpur
Average price (Rs. per maund)	2·957
Standard deviation	0·389
Coefficient of variation	13·155 per cent
Coefficient of correlation (*r*) with Hapur prices	+0·958
Probable error of (*r*)	±0·016

TABLE XIX (*p.* 43)

Average Annual Prices of Wheat in some Important Mandis of India

Name of *mandi*	Price (in Rs. per maund) during 1936–37.
1. Lyallpur	2·957
2. Hapur	2·818
3. Karachi	3·412
4. Bombay	3·697
5. Calcutta	3·791

TABLE XX (*p.* 43)

Differences between Annual Prices of Wheat in some Important Mandis of India

Year	Difference (in Rs. per maund) in prices at—						
	Hapur and Lyallpur	Karachi and—		Bombay and—		Calcutta and—	
		Hapur	Lyallpur	Hapur	Lyallpur	Hapur	Lyallpur
1936–37 ..	—0·139	0·594	0·455	0·879	0·740	0·973	0·834

TABLE XXI (*p.* 45)

External Trade of the United Provinces in Wheat

(in maunds)

Year	Exports	Imports	Net exports
1936–37	4,421,703	1,670,430	2,751,273

TABLE XXII (*p.* 45)

External Trade of the United Provinces in Wheat Flour

(in maunds)

Year	Imports	Exports	Net imports
1936–37	950,478	742,816	207,662

TABLE XXIII (*p.* 46)

Exports of Wheat from the United Provinces and the Punjab to Calcutta, Bombay and Karachi

(in thousand maunds)

Year	Exports of wheat					
	from the United Provinces to—			from the Punjab to—		
	Calcutta	Bombay	Karachi	Calcutta	Bombay	Karachi
1936–37	3.329	35	..	1,409	804	7.569

TABLE XXIV (*p.* 47)

Imports of Wheat into Calcutta

(in maunds)

Year	Total imports	Imports from the United Provinces	Imports from the Punjab—
1936–37	5,468,371	3,3?8,921	1,408,731

TABLE XXV (*p.* 49)

Production, Exports and Imports of Wheat (including Wheat Flour) in the United Provinces

(in thousand tons)

Year	Imports	Exports	Net imports	Production	Total available in the United Provinces
1936–37 ..	96	189	—93	2,532	2,439

TABLE XXVI (*p.* 50)

Imports of Wheat and Wheat Flour in the United Provinces

(in maunds)

Year	Imports into the United Provinces from—				Total imports into the United Provinces
	The Punjab	Central Provinces and Berar	Central India	Other sources	
1936–37 ..	1,359,249	423,466	555,386	282,807	2,620,908
Increase over 1935–36.	+1,600,344	—565,267	+198,569	+146,233	—1,820,809

TABLE XXVII (*p.* 53)

Quantity of Wheat and Cereals available for consumption in India

(in thousand tons)

Year	Wheat	Cereals other than wheat	Cereals, total
1936–37	9,202	44,196	53,398

TABLE XXXIII(A) (*p.* 63)

Retail Prices of Cereals in India

(Seers per rupee)

Year	Prices of—					
	Wheat	Rice	Gram	Barley	Jowar	Bajra
1936..	12·00	11·15	16·42	20·09	16·05	14·50

TABLE XXXIII(B) (*p.* 64)

Retail Prices of Cereals in the United Provinces

(Seers per rupee)

Year	Prices of—						
	Wheat	Rice	Gram	Maize	Barley	Jowar	Bajra
1936	12·79	9·98	18·49	19·41	19·96	18·87	18·54

TABLE XXXVII (*p.* 93)

Average harvest Price of Wheat at Hapur

1936–37 .. .. Rs.2·393 per maund.

TABLE XLIV (*p.* 116)

Harvest, Sowing and Annual prices of Wheat at Hapur

(1936–37)

Year	Harvest price	Sowing price	Annual price	Difference (per maund) between	
				Sowing and harvest prices	Sowing and annual prices
	(Rupees per maund)			A. p.	A. p.
1936–37 ..	2·526	3·063	2·818	8 7	3 11

Part (B)

(CHAPTER III)

1. The year 1936-37 has been exceedingly different from the year immediately preceding it so far as the wheat trade of India is concerned. Table IV shows that during 1936-37 India exported 232 thousand tons of wheat against 10 thousand tons in the preceding year. The reason for this is that during 1936-37 the price of Australian wheat in the London market rose relatively to that of Karachi wheat so that the difference between the two prices came to exceed the cost of transportation, etc. Table XIII shows that if the price of Australian wheat in London be Rs.$(2{\cdot}955+p)$ per maund, wheat would tend to be exported from Karachi to London when the price of wheat at Karachi is Rs.$(2{\cdot}334+p)$ per maund or lower, provided other things remain equal. Table XII shows that the average freight rate on wheat from Karachi to London increased from 22*s.* 10·7*d.* per 18 cwt. or Re.0·621 per maund during the three years 1933-34 to 1935-36 to 25*s.* 9·5*d.* per 18 cwt. or Re.0·700 per maund during 1936-37, an increase of Re.0·079 per maund. The 'limiting' price for Indian exports for 1936-37 thus becomes Rs.$(2{\cdot}334+p)$—Re.0·079 or Rs.$(2{\cdot}255+p)$ per maund (*a*). Table IX shows that the average price of Australian wheat in London during 1936-37 was Rs.4·329 per maund. The value of p for the purpose of Table XIII, therefore, comes to (4·329—2·955) or 1·374. This means that actual exports of wheat from Karachi to London would ordinarily begin when the price of wheat at Karachi is Rs.$(2{\cdot}255+1{\cdot}374)$, that is, Rs.3·629 per maund or lower. Actually the average price of wheat at Karachi during 1936-37 was Rs.3·455 per maund (*b*). Hence the comparatively large exports during 1936-37.

2. It will be noticed from Table IX that the correlation between prices in London and those at the Indian ports increased considerably during 1936-37. Thus the coefficient of correlation between prices in London and at Karachi rose to +0·970 in 1936-37 as against +0·431 during the three years 1933-34 to 1935-36. This is natural as during 1936-37 exports of wheat from India to Europe were resumed so that variations in the price of wheat in India were influenced by those in the price of wheat in the London market. It may, however, be added that the exports of wheat from India during 1936-37 cannot be regarded as a normal feature. These exports were mainly due to the abnormal conditions created by the apparent imminence of

(*a*) Cf. paragraph 39. (*b*) vide Table IX.

war in Europe, which led some of the big dealers and speculators in Europe to stock wheat in large quantities.

(CHAPTER IV)

3. Variations in the price of wheat in the United Provinces showed still greater correspondence with those in the prices of wheat outside the United Provinces during 1936-37 than during the three preceding years. The coefficient of correlation between prices of wheat at Hapur and Karachi rose from +0·774 during the three years from 1933-34 to 1935-36 to +0.932 during 1936-37 (*vide* Table VII), and that between prices at Hapur and Lyallpur came to +0·958 during 1936-37 as against +0·876 during the three preceding years (*vide* Table XV).

4. Conditions of internal trade in wheat in India during 1936-37 were, however, as different from those in the three preceding years as those of external trade. Table XXI shows that the exports of wheat from the United Provinces increased from 1,995 thousand maunds in 1935-36 to 4,422 thousand maunds in 1936-37, while its imports decreased from 3,039 thousand maunds to 1,670 thousand maunds during the same period, the net exports thus increasing by 3,795 thousand maunds. A similar change took place with respect to trade in wheat flour. The imports of wheat flour into the United Provinces decreased from 1,402 thousand maunds during 1935-36 to only 950 thousand maunds during 1936-37 and its exports increased slightly from 574 thousand maunds to 473 thousand maunds during the same period (*vide* Table XXII). As a result, the United Provinces regained their position in 1936-37 as exporters of wheat, their net exports of wheat and wheat flour during that year amounting to 93 thousand tons against their net imports of 69 thousand tons in the preceding year (*vide* Table V).

5. That this favourable change in the external trade of the United Provinces in wheat was not wholly due to a variation in the yield is clear from the fact that the yield of wheat in the United Provinces increased from 2,529 thousand tons in 1935-36 to 2,532 thousand tons in 1936-37, that is, by only 3 thousand tons or 82 thousand maunds (*vide* Table II). It will be interesting to see how far conditions in the Punjab were responsible for this change and to what extent this change promises to be permanent or stable. Table XXIV shows that the total imports of wheat into Calcutta during 1936-37 increased by (5,468—4,095) or 1,373 thousand maunds, that is, by 33·5 per cent. of the total imports during 1935-36, assuming that this increase should have been shared, under

normal circumstances, by all the exporting centres in proportion to their exports to Calcutta, the imports of wheat into Calcutta from the United Provinces in 1936-37 should have increased by about 335 thousand maunds and those from the Punjab by about 828 thousand maunds. Actually the imports from the United Provinces increased by (3,329—1,001) or 2,328 thousand maunds, thus showing an excess of (2,328—335) or 1,993 thousand maunds over the *expected* imports, while those from the Punjab *decreased* by (2,473—1,409) or 1,064 thousand maunds, indicating an excessive decline of (1064+828) or 1,892 thousand maunds. An increase of 1,993 thousand maunds in the imports from the United Provinces has, therefore, to be set against a decrease of 1,892 thousand maunds in those from the Punjab, which leaves an increase of only 101 thousand maunds in the imports from the United Provinces to be accounted for otherwise. The close correspondence between the above two figures brings out clearly the fact that the United Provinces have been able to treble their exports to Calcutta during 1936-37, only because the Punjab made room for them in that market, just as in 1935-36 the United Provinces lost heavily in their exports to Calcutta because the Punjab competed in that market (*a*). It will be seen that of the total increase in the net exports of wheat from the United Provinces during 1936-37, namely 3,795 thousand maunds, 2,328 thousand maunds or over 61 per cent. related to the Calcutta market. This shows clearly that the direction and the magnitude of the exports of wheat from the United Provinces is very largely dependent on the conditions of external trade in wheat of the Punjab.

6. The nature of the reasons which led the Punjab to make room for the United Provinces in the Calcutta market during 1936-37 will also explain whether and how long the United Provinces will be able to maintain their exports to Calcutta. It is not that the Punjab suffered a heavy set-back in its exports of wheat during 1936-37; on the contrary, its exports of wheat increased from 9,054 thousand maunds in 1935-36 to 10,716 thousand maunds in 1936-37. But the direction of its exports changed. The sudden demand for wheat from Europe proved a greater attraction and, as will be seen from Table XXIII, the Punjab exports of wheat to Karachi increased in 1936-37 by (7,569—2,569) or 5,000 thousand maunds whereas the total decrease in its exports to Calcutta and Bombay together amounted to only (1,064+686) or 1,750 thousand maunds. The reason for the decrease in the imports of wheat from the Punjab into Calcutta during 1936-37 was, therefore, not Punjab's inability to compete with

(*a*) Cf. paragraph 71.

the United Provinces in the Calcutta market but a diversion of its export trade from Calcutta to the Karachi and foreign markets. The chances of the United Provinces retaining their wheat exports of 1936-37 in future years thus appear to be about the same as the chances of India maintaining her exports of wheat to foreign countries.

7. As explained earlier (*a*) Hapur, situated inland, cannot compete with Lyallpur in the Karachi or the foreign markets. As a result, it will be seen from Table XIX, the average price of wheat at Lyallpur during 1936-37, namely Rs.2·957 per maund, was slightly higher than that at Hapur, namely Rs.2·818 per maund, whereas during the preceding three years, when the exports of wheat from India were insignificant, the price of wheat at Hapur was always a little higher than that at Lyallpur.

(*a*) *Vide* paragraph 63.